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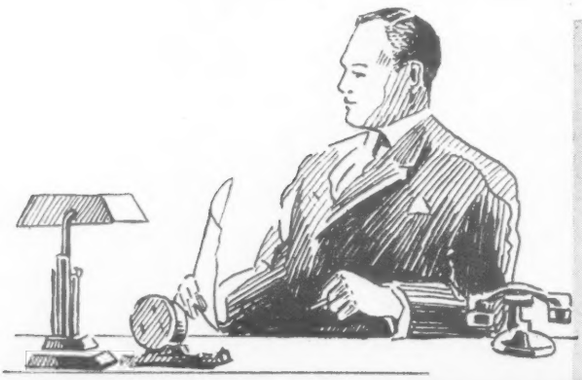
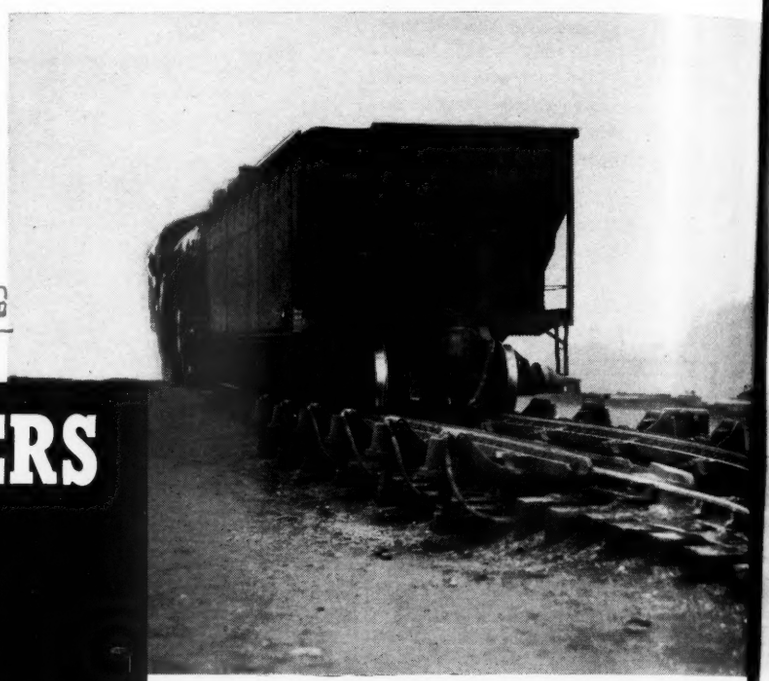
A Railroad Executive Says:





CAR RETARDERS REDUCE *Operating Expenses*

At a railroad club meeting, an executive stated that car retarders in hump yard operation are a big factor in reducing operating expenses. He emphasized the savings in yard operating cost, in loss and damage to freight, in damage to equipment and in personal injuries. He also commented on the value of car retarders in increasing yard capacity and speeding up the general movement of traffic, and further that car retarders are being used successfully in comparatively small yards.

This railroad has "Union" Electro-Pneumatic Car Retarders in service. Shall we explain in detail how they accomplish the advantages he outlined?

ASK FOR OUR BULLETIN NO. 155

UNION SWITCH & SIGNAL COMPANY
SWISSVALE, PA.

NEW YORK CHICAGO ST. LOUIS SAN FRANCISCO

RAILWAY AGE

The "Real Railroaders" and the "Speechmakers"

The railroads are doing much better. The sudden, unprecedented upturn in business, unaccompanied by a normal increase in their operating expenses, is causing a large increase in their net earnings. The improvement in their results will continue, if too much is not done to stop it, as long as the improvement in general business continues.

But their future welfare depends on their net earnings, and imperatively demands a very much larger increase in net earnings than even now is occurring. Owing to the great improvement in business they probably earned at an annual rate of 3 per cent on investment in September and October combined. That was a large increase, but still leaves them making net earnings only about half as much as they need. And repeatedly since 1932 we have seen their increases of traffic and gross earnings turned into reductions of net earnings by advances in wages, prices and taxes.

If the railroads are really to become prosperous and put in condition to meet all demands on them a much better fight must be made on their behalf than ever has been made heretofore. They are surrounded by astute, aggressive and well-organized enemies. They must do their utmost to make more active friends by convincing more people that their selfish interest is with the railways; and the railways and their friends must become as well organized as their enemies and show as much astuteness and aggressiveness—although, we should hope, less hyprocrisy, unscrupulousness and disregard of the public interest than are shown by the membership, for example, of the National Highway Users' Conference and the Mississippi Valley Association.

Something that Hitler Has Taught

In this connection, there is one thing Adolf Hitler has taught the world as it never was taught it before—viz., the power of skillful, persevering, ubiquitous propaganda. It always has been a vitally important part of the Nazi doctrine and method, domestic and foreign, to carry on propaganda incessantly, if possible, as a substitute, if not as a vitally important supplement, for force; and Hitler had won more by propaganda and bluffing, before he got into the present war, than the great Bismarck won in his entire career, including the successful conduct of three wars.

No honest man can advocate the entire Hitlerian technique, which is based on the premise that the end justifies the means, and therefore includes the constant repetition of all lies, however monstrous, that may be helpful. But it cannot safely be disregarded that this very technique often has been used successfully, although never on as grand a scale or so successfully, as by Hitler; that it has been, and still is being, effectively used *against* our railways; that, in fact, propaganda, honest or dishonest, always is carried on in essentially political struggles such as that over our transportation problem; and that in such struggles its efficient use is absolutely indispensable to success.

When "Real Railroaders" are Visionaries

The management of our railways has never believed this. It doesn't believe it now. If it did, the organized industry wouldn't give the half-hearted support that it does to "public relations" work, while so many managements of individual railways give virtually no support to it at all. It is an unfortunate fact that the kind of railroad men who may be the most admirable and the most likely to rise to the top are not necessarily those who can do the most to save the industry from ruin.

We have in mind the honest-to-God railroaders who believe that a railroad man's job is to *railroad*, and not to make speeches before Kiwanis Clubs. The kind who, if an employee does his job well, feel, "Well, that's what he's getting good money for, isn't it?" Or who, if the employee falls down, believe that he ought to be told to get his time, and have an end to it. These are the men, though, who, when there is a wreck or a washout, will work 36 hours or more at a stretch to get the line in service again—and won't want their pictures put in the paper for it, either. It is hard to say that such men are dreamy idealists—because that sounds like a knock, and anybody who would knock such men would steal money from his son's dime-bank. But idealists, with their heads in the clouds, is what they are, all the same. For they are living in a world as it ought to be, and not as it actually is.

Down-to-earth realism recognizes that—in addition to

honesty, industry and intelligence, the world contains much dishonesty and much more laziness, ignorance and blind selfishness. This observation is particularly true of politics—and transportation today is fully as much politics as straight operation. Lack of adaptation to a changing environment was what caused the big dinosaurs of forgotten ages to become extinct—and it is certainly a lack of adaptation to conditions as they are to believe that a railroad can any longer be successfully managed merely by doing an honest and efficient job of real railroading.

Giving Public Relations Work a Chance

Liars, sluggards and dumb-bells have votes; and once a business has got into the hands of politics as transportation has, effective means of dealing with misrepresentation, sloth and ignorance are just as necessary a part of a transportation enterprise as its operating, engineering or mechanical department.

Most railroad people will recognize a certain measure of truth in the above statement, as is evidenced by the fact that most of the roads have in recent years assigned men to specialize in public relations and legislative work. But still the old attitude lingers that these men, after all, really aren't railroaders, and that what they say or do is decidedly less important than and subordinate to the work of getting trains over the road. The public relations man is too often not considered an expert to be consulted before his management decides upon a policy which involves the company's relations with the public. Instead, the policy is settled, and then the public relations man is called in and told what it is that he is expected to convince the public that it should believe and like.

What kind of showing would the mechanical and engineering departments make if the directors acquired new cars, locomotives, shop machinery, and bridges without consulting them—simply saying "You boys do the maintaining—what you are to maintain is not your affair." Or what kind of showing would the operating department make if the traffic department was allowed to promise anything up to and including the moon? Or how many cases would the railroads win in the courts if legal questions were passed on by the directors without consulting with the law department, leaving it merely to get the company out of such difficulties as it chooses to blunder into?

What Are the Unsolved Problems?

These questions all sound ridiculous. Of course, no mechanical or engineering or operating or legal department could get satisfactory results if it were treated in this fashion. Railroad performance would crumble and expenses would shoot up out of sight. And yet—this is the handicap under which many public relations departments work. Is it any wonder then, that **every single one of the serious problems which threaten the railways lies in the field of public (including employee) misunderstanding?** Just consider a few of the more important of these problems—

Unequal regulation of the railways and other carriers.

Large and increasing subsidies to competing transportation agencies.

Onerous working rules of employees which waste money and hamper the railways in holding competitive traffic.

Regulatory restrictions which handicap the railways without conferring commensurate advantages, or any advantages at all, on the public.

Discriminatory and excessive taxation.

The list might be considerably lengthened; but who can maintain that there would be any such thing as a "railroad problem" worthy of such designation today if the above handicaps *were* removed? And it is equally obvious that those handicaps lie entirely in the field of public and employee relations. No amount of effective work in the operating or technical departments will serve to mitigate these tribulations one iota. Furthermore, *it is demonstrable that long-run employee and public self-interest exactly parallels the self-interest of the railroads on all four of the above points.* It is only misinformation and sloth which have separated the railroads, on the one hand, and their employees and the public, on the other, on these questions. The wide dissemination of honest information—not deceptive propaganda—backing up persistent effort for remedial action would undoubtedly solve all the railroads' serious difficulties.

Find Out What Employees and Public Think

In short, effective work by the public relations departments of the railroads is absolutely indispensable to restoring the industry to a reasonable degree of prosperity; and either the public relations department is the department on the railroad which has expert knowledge of the requirements of its indispensable job, and how to go about it—or management has failed to do its own job of creating an adequate public relations department. And yet, this key department—the one in which lie the most important present problems of the railroads and the entire future of the industry—is, as yet, usually looked upon largely as an appendage (perhaps even an appendix).

The wonder is that the public relations men have done as good a job as they have, considering their handicaps. Not only do they lack authority, not only are they often treated as if their only job should be to tell press and public what chief executives or heads of other departments think they should be told, but they have to do their work in many cases with very little money. A department vital to the very existence of the enterprise is supposed to do its work on a budget equivalent to the operating expenses of a branch line train, or maybe only such a train's fuel bill.

There will be many, of course, who will suspect that the picture we paint here is exaggerated. To such persons may we suggest the following: Leave your pass home some day, and go out and ride some other fellow's railroad where you will not be known. Talk to the trainmen—not to tell them anything, but to find out what information they have on railroad problems. Talk to your fellow-passengers—especially business men—and find out what their information is and what they think. Then add up all the *mis*information you will have collected (we speak from experience)—and you will begin to wonder, not why the railroads have fared so badly at the hands of politics, but how they can continue to exist at all. Individual opinion is the raw material from which political policies are made—and a little sampling will convince anybody that the raw material from which public policies as regards transportation are made is very raw indeed.

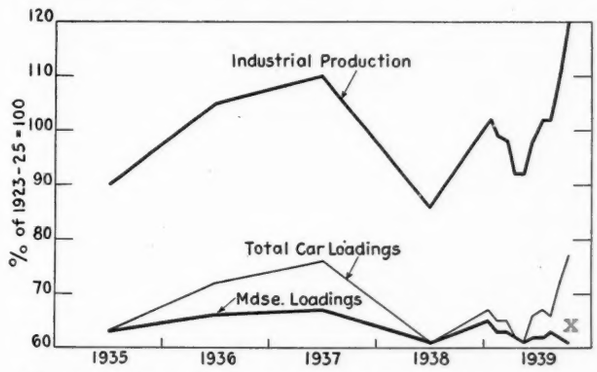
The Handicap of Understandable English

The prime reason, probably, why public relations work is so often treated as a hired-girl, rather than invited to pull up a seat with the rest of the railroad family, is that it performs its important functions through the use of common language. Economics suf-

Is Traffic Famine a Dead Specter?

Railroad traffic comes from all other business—and ought to go up pretty much the same as all other business goes up. But take a look at this chart. Note how much further industrial production in general has climbed in the last couple of months than total carloadings have; and *how the merchandise carloadings ratio has actually declined.*

This is a percentage chart with the years 1923-25 taken as 100 (this being the basis upon which the index of industrial production—that of the Federal Reserve Board—is compiled). It is drawn on an annual basis for the years 1935-38 and on a monthly basis during 1939. What the chart shows is that in October industrial production was at 120 per cent of the 1923-25 level, while total carloadings were only 77 per cent as much as they were for the October average of 1923-25. And merchandise carloadings were only 61 per cent as high as they were back there in the early 'Twenties.



X Marks the Spot Where the Acute Railroad Problem Lies—Namely in the Failure of Carloadings to Respond Fully to the Upturn in General Business

And look at the top and bottom lines on the chart—how, as time goes on, the distance between them widens. The F. R. B. index does not perhaps include all the elements needed for a true measure of industrial production—but it certainly includes most of them, and the fact that it goes in one direction while merchandise carloadings go just opposite is certainly sadly significant.

The traffic diverted from l. c. l. to forwarder handling doesn't explain the drop in the merchandise curve either, because I. C. C. figures show that forwarder tonnage is only about 15.5 per cent of total merchandise traffic. Add that percentage to the l. c. l. curve in this chart, and the situation is still bad.

The place where the answer is to be found is, of course, in truck loadings. There isn't any index of such loadings going back to 1923-25 (and our chart would not be big enough to show the percentage increase if there were such an index). However, we do know that the trucks are now handling 38 per cent more traffic than they did in 1938 and 44 per cent more than at the beginning of 1937. Of course, the loss of traffic to trucks has not been confined to merchandise. Numerous common carrier truckload rates and contract carrier contracts filed with the I. C. C., and current information of truckload movement, indicate that the inroads into carload traffic have been even greater.

The recent increase in total railroad traffic has encouraged the railroads—but, as this chart shows, their fundamental problem has not been solved. Instead, it is becoming more serious right along. **The railroads are moving a constantly declining percentage of the country's available traffic, and no temporary improvement in general business ought to divert attention from that distressing fact.**

Fortunately, there is plenty of evidence that progressive railroad men are fully awake to the situation and are doing all that they can to correct it (and what they are seeking is simply to get business to which the railroads are *economically entitled*—so their efforts are just as much in the public interest as in the railroad interest).

Such a progressive attitude deserves more cooperation on the part of the regulatory authorities than it is getting. Take I. & S. Docket 4265 and related cases involving naval stores from Mississippi to gulf ports, for instance. Here the railroads sought in October, 1936, to stop a motor carrier from engaging in unfair practices, and to establish rates that were justified by costs of operation. Three years have elapsed and still the Interstate Commerce Commission has not decided the case. What value is there in law providing that a case must be decided in 210 days if it can be delayed more than 1,100 days and even then remain undecided?

fers the same handicap. No layman tries to give orders to a chemist, because the chemist uses mysterious symbols in his business. No outsider tries unduly to interfere with the engineer for precisely the same reason. The traffic department is left largely to its own counsels because of the protection given it by the formidable rate structure. Even the operating department is protected by a lingo of its own and on many occasions a kind of action without any talk at all which awes the outsider, and causes him to respect the practitioner.

By contrast the science of economics and the practice of public relations (both of which are fully as complex as any other technologies) use ordinary English. Consequently, anybody who knows any English feels pretty much at home in the discussion of economic and public relations questions, even though his ignorance of them may be as abysmal as it is of biological chemistry or spherical harmonics.

The Enemy Grows More Active

It is not a question whether the predominant opinion in the railroad industry likes the idea of greater authority, responsibility and expenditure for and by its public relations officers. Great Britain and France did not like the idea of constant, deafening and ubiquitous propaganda or of huge armies and huge expenses for munitions. But Hitler went in for them, and the British and French had to adopt them, too—or perish. It is the same with the railroads. The National Highway Users' Conference, largely backed by the cash, the sales experience, and the advertising expenditures of big manufacturing, oil and highway material and construction companies; the Mississippi Valley Association, and all like-minded enemies of the railroads, are rapidly solidifying and intensifying their propaganda campaign in behalf of other carriers and against the railroads.

Unless the railroads will equip themselves—not to misinform, but to neutralize the growing onslaught of deception aimed at them—the industry is in for action against it that will forestall the increase in its earnings that would be caused by continuance of the current increase in its traffic. After all, in '32 and '33 we could look forward to recovery—but how much recovery can the railroad industry look forward to if the Bureau of Public Roads' scheme for 28,000 miles of toll-free superhighways goes through, if complete license-reciprocity for all trucks succeeds, if truck fees are substantially reduced, if truck weight limits are raised throughout the country, if the St. Lawrence waterway and a half-dozen projects like the Youngstown canal are built?

You can't operate or maintain a railroad without traffic. In vastly improved and intensified public relations work seems to lie the only hope for protecting the traffic the railways now enjoy and adding to it, if and when sensible national policies permit the return of prosperity. And such work cannot be efficiently and effectively carried on by men who have policies dictated to them by persons who have never specialized on public relations problems and are provided with funds ridiculously small compared with what is involved, any more than the work of the legal or any other department of railroading could be efficiently and effectively carried on if similarly and equally demeaned and handicapped.

Help "Real Railroaders" Get Results

The railroaders who want to "railroad" instead of making speeches ought to be allowed to do so—but, at the same time, they should recognize that if they are going to continue to have railroads on which they can do real "railroading" *somebody* on the railroads who knows how to deal with the most pressing and important problems of the industry must be given the responsibility, the authority and the money to do that job, and do it well. The "real railroaders" never did a better job of "real railroading" than within recent years. And much has been accomplished by it—for employees, who have stayed on the payroll, for passengers and for shippers. But how much has been accomplished by it for the *railroads?* The answer is in *net earnings*—and year after year they have averaged less than half as large as formerly and have been *the smallest on investment in all railroad history.* The future of the railroads will be determined not only by efficiency in "real railroading," but also by the amount of gross earnings that "real railroading" is allowed to get and convert into net earnings—by how much traffic is diverted from or recovered by them, and by what *unit costs* of operation and taxes are forced on them, by *public policies;* and while the real railroaders are doing their stuff the results they get should be better protected in future from attacks preventing those results from proving of any value to the *railroads.*

A "Fantastic Scheme"—But—

On November 13 Thomas H. MacDonald, chief of the United States Bureau of Public Roads, made a speech at a meeting of the American Petroleum Institute in Chicago, in which, as reported in the press, he advocated "a nationwide superhighway construction program on which 35 to 40 billion dollars would be spent in the next 20 years." "Our surveys indicate a need of 28,000 miles of superhighways in this country from centers of the cities outward," Mr. MacDonald was quoted as saying.

If the total expenditure was 40 billion their cost would be 14 billion dollars more than the total investment in the 234,482 miles of the Class I railways, and their cost per mile would be 13 times railway investment per mile.

At the same meeting Maj. Roy F. Britton, president of the Automobile Club of Missouri, said: "Most motor owners earn less than $30 a week. The average motorist uses 700 gallons of gasoline a year. . . . A diminish-

ing stream of revenue will flow from exorbitant (gasoline tax) rates." In other words, according to Maj. Britton, gasoline tax rates should be reduced rather than increased.

And also at the same meeting Dr. Roswell Magill of Columbia University, former undersecretary of the treasury, said: "In 1914 our (government) debt was low and our tax sources almost untapped. Today our debt is great, our peace-time budget heavily unbalanced and our taxes imposed on a basis which yielded more in 1938 than our greatest collections during the first world war."

These three addresses, all made at the same meeting, surely make a most interesting exhibit for the American taxpayer to contemplate.

According to Mr. MacDonald, we should spend 40 billion on superhighways—an amount almost equal to the present unprecedented national debt—*for the use of the motorist.* But according to Maj. Britton most motorists can't afford to pay more for the use of the highways because their income is less than $30 a week. And according to Dr. Magill the present national debt is so huge it is a national menace, and it is increasing in spite of the fact that the national government collected more taxes in 1938 than ever before.

Well, then, who's going to pay that 40 billion dollars for superhighways which, according to Mr. MacDonald, the motorists need, but which, according to Maj. Britton, they can't afford to pay more for the use of? The operators of buses and trucks, who would benefit relatively most by them? They claim they are being charged too much for existing much cheaper highways; and anyway, they couldn't pay much toward the maintenance and interest charges of 40 billion dollars' worth more of highways.

Some say the fixed charges of the railways are too high. Well, they would be like a punched nickel compared with the fixed charges of present highways plus 40 billion more of them.

If these superhighways, or any considerable part of them, are built, they will be paid for principally from *increased real estate taxes* on farms and homes, and from *increased income taxes* collected from individuals and business; and they will so increase subsidized competition with the railways as to make far more difficult their problem as a *private, self-supporting enterprise.*

A fantastic, lunatic scheme? Yes; *but it is being backed by some of the biggest selfish business interests in the country.* And who would have thought a few years ago there would be an orgy of public expenditure that would reduce the United States treasury to the condition, and increase the taxation of the American people to the level, described by Dr. Roswell Magill, recently undersecretary of the treasury in the New Deal administration, in the speech above quoted?

"Who's Who in Railroading"

Several inquiries have reached us concerning the announcement of a publication entitled, "Who's Who in Transportation and Communication." This is not being published by the Simmons-Boardman Publishing Corporation, publisher of the *Railway Age.* To avoid any possible misunderstanding, we take this opportunity to announce that "Who's Who in Railroading," one of our publications, will shortly be revised, the latest previous edition—the ninth—having been published in 1930. Plans have been completed for its thorough revision.

Missouri River Follies

Three loaded barges of the Inland Waterways Corporation are stranded on a sandbar in the Missouri River near Jefferson City. Perspiring stevedores are transferring the cargoes of wheat and merchandise to railroad cars, a necessary step if delivery is to be made before next Spring.

The stranded barges are visual evidence of the folly of spending millions on the Missouri in a hopeless attempt to make it navigable. They cannot be ignored by the Mississippi Valley Association, which this week renewed its stand for a 9-foot channel from Sioux City to the mouth.

The association and other waterways evangelists have an answer. When the Fort Peck Dam is completed, they say, sufficient impounded water can be released to keep the channel navigable.

We are told that it is as simple as falling off a log. When dry weather lowers the Missouri, an engineer at Fort Peck will open a valve and release impounded water into the channel. Taking into account water lost by evaporation and seepage into the dry river bed, enough will eventually reach Kansas City—1,400 miles distant—to keep barges off the sandbars. Or so the theory goes. It may work, but it recalls Fatty Arbuckle's trick of attempting to extinguish a burning house with a tin cup.

That isn't the half of it. The Fort Peck Dam itself is a monumental piece of foolishness, authorized on pressure from waterways advocates.

It is being built for the double purpose of generating electrical energy and of stabilizing the Missouri's channel. As for electricity, the dam will provide an abundance of power for a Montana area populated mostly by groundhogs and coyotes. As for the Missouri River, 84 million dollars—the cost of the dam—is not a bargain price for keeping barges off sandbars at Jefferson City, especially when the government has spent an average of $197,722 a mile for channel stabilization between Kansas City and St. Louis.

The farce should be ended at once by permanently suspending the Missouri operations of the subsidized Inland Waterways Corporation and confining river work to scientific flood control.

In these troubled times a little humor now and then is welcome, but in the case of river navigation the comedy comes at too high a price.

From the Kansas City Journal

View of the New Station From Across Trumbull Street, with the Main Line Platforms at the Left and the Long Branch Wye at the Right

This Grade Separation Involved Difficult Traffic Problem

Project on C.R.R. of N. J. at Elizabethport, N. J., costing $5,000,000, required the elevating of two intersecting lines and four wyes

WHEN the Central Railroad of New Jersey undertook a grade separation project at Elizabeth, N. J., involving the elevation on embankments of two intersecting lines and four wyes, it was confronted with the complicated problem of maintaining all the lines in service under very heavy traffic during the course of the work. However, by carefully planning all moves involved in the shifting of traffic from low levels to high levels or from one set of tracks to another, the elevation of the grades was accomplished without other than minor delays to traffic. A measure of the complicated nature of the problem is found in the fact that during the course of the project about 30 shifts of traffic were required, each involving the transfer of main-line traffic from one set of tracks to another.

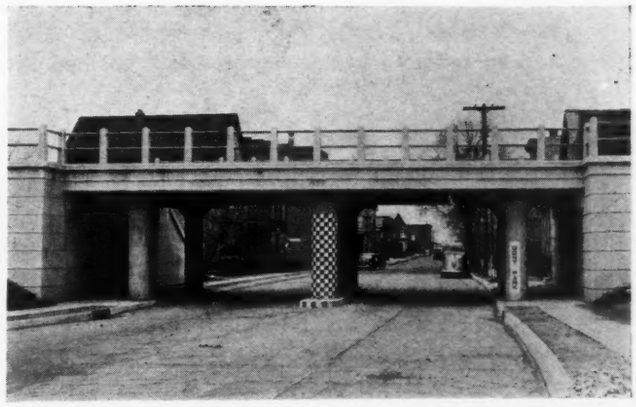
Location of Project

This project is located at the junction and intersection of the main line between Jersey City, N. J., and Scranton, Pa., with the Newark and Elizabeth branch on the north of the main line and the Elizabethport and Perth Amboy branch on the south, the two branch lines being connected by a single-track line that crosses the main line at grade. In this vicinity the four-track main line extends generally in a southeast-northwest direction, while the two double-track branches form a line that extends generally in a northeast-southwest direction. Each angle of the intersection contains a wye comprising one or more tracks. The single-track wye in the easterly angle is known as the New York wye; the three-track wye in the northerly angle is designated as the Newark wye; that in the southerly angle, which has two tracks, was formerly known as the Long Branch wye; and that in the westerly angle, which has one track, is referred to as the Philadelphia wye.

Facilities of the railroad that are located in the vicinity of the junction point include shops and an enginehouse, which are situated in the easterly angle of the intersection; the passenger station, which is located in the center of the layout in the southerly angle of the intersection; and an extensive freight yard together with an l. c. l. transfer yard, which are located directly west of the crossing, the freight yard tracks being arranged on both sides of, and parallel to, the main line. About 3,300 ft. east of the crossing on the main line, a "duck-under" carries a freight track which is used principally for the transfer of freight cars between the Bayonne, N. J., yard and Newark. The Bayonne yard is located about 3½ miles east of Elizabethport and on the south side of the main line, and the transfer of cars from this yard to the Newark district is accomplished by moving them against traffic on the east-bound freight track, which is signalled for this purpose, to and through the "duck-under" to the north side of the main line, and thence around the New York wye and over the Newark and Elizabeth branch.

For some distance south of its connection with the main line, the Elizabethport and Perth Amboy branch passes through a mixed residential and business neighborhood

where it formerly crossed twelve intersecting streets at grade within a distance of about 5,000 ft. from the main line. Trumbull street, which is nearest the main line, crossed the two wyes and the Newark and Elizabeth branch connection. The Philadelphia wye was also crossed at grade by New Point road which converges with Trumbull street within the angle formed by this wye and the connecting track. The only other street grade crossing in the immediate vicinity was located a short distance west of the intersection, where Schiller street intersected the main-line tracks. In addition, the E. & P. A. branch was also crossed at grade by two single-track branch lines, one in Port avenue, known as the Port Avenue branch, and the other in Broadway, known as the Broadway branch.



This Is Typical of the Street Bridges Constructed on the Elizabethport & Perth Amboy Branch

Project Started in 1931

The separation of grades on the E. & P. A. branch had long been considered desirable and as early as 1931, work was undertaken on the elevation of the line. Lack of sufficient funds, however, caused the work to be suspended after abutments had been completed for seven of the street bridges, and the project was not revived until 1936, when, with the aid of a P. W. A. grant, it became possible to continue the work.

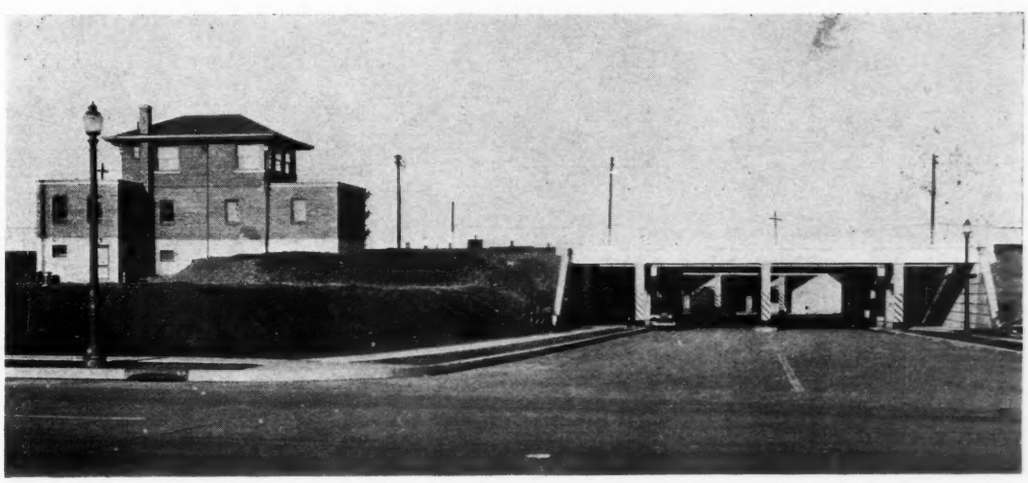
The project involved the elimination of all street and railroad grade crossings mentioned above except that formed by the intersection of the main line and the connecting track between the two branch lines. The structures that were built to achieve this end include 11 street underpasses on the E. & P. A. branch beyond the limits of the wyes, and one each on the Long Branch and Philadelphia wyes and the intermediate connecting track for carrying Trumbull street under these tracks. A continuation of the bridge carrying the Philadelphia wye across Trumbull street also extends across New Point road.

Elimination of the Schiller Avenue grade crossing with the main line was achieved by closing this crossing and diverting the traffic through subways under the Newark wye and the main line, these subways comprising what is known as the Fourth Street underpass. To separate the railroad crossings on the E. & P. A. branch, underpasses were constructed for the Port Avenue and Broadway branch lines. Thus the project required the construction of 16 bridges across streets and 2 across tracks. Moreover, to permit the shops to be reached from the Fourth Street underpass, a drive was located immediately north of, and parallel with, the main-line tracks, and it was necessary to construct bridges to carry this drive under the New York wye and the N. & E. branch crossing. Because it would have entailed a complete rearrangement of the freight yard facilities and other costly work, no attempt was made to separate the railroad grades at the intersection of the main-line tracks and the connecting track between the two branch lines, although this was a feature of the 1931 plans.

Method of Effecting Separations

On the E. & P. A. branch the separation of grades was achieved largely by elevating the tracks, and here the maximum raise of the track grade amounted to about 16 ft. at the south end of the change in grade, where it was also necessary to depress the grades of several streets a considerable amount. However, the raise of the grades at the railroad intersection was limited to about 10 ft. by depressing the street grades in the Fourth Street and Trumbull Street underpasses as much as local conditions would permit. A governing factor in fixing the amount of this raise was the necessity of maintaining a reasonable grade on the E. & P. A. branch. With the raise of 10 ft. in the main line, an ascending grade of 0.66 per cent from this level was required on the branch line, and hence it would not have been feasible to establish the main-line grade at a much lower level, even in the absence of underpasses at Fourth and Trumbull streets.

In establishing run-off grades on the main line and on the Newark and Elizabeth branch, a number of considerations were involved. Originally, the railroad intersection was situated at the bottom of a sag in the main



This View, Taken From Across Trumbull Street, Shows the Fourth Avenue Underpass and the New Signal Tower

line, involving a maximum grade of 0.7 per cent on the east and 0.6 per cent on the west. The raise in the main-line grade necessitated by the elevation project had the effect of removing the sag and, as now established, the main tracks are on a level grade for nearly a half mile each way from the crossing.

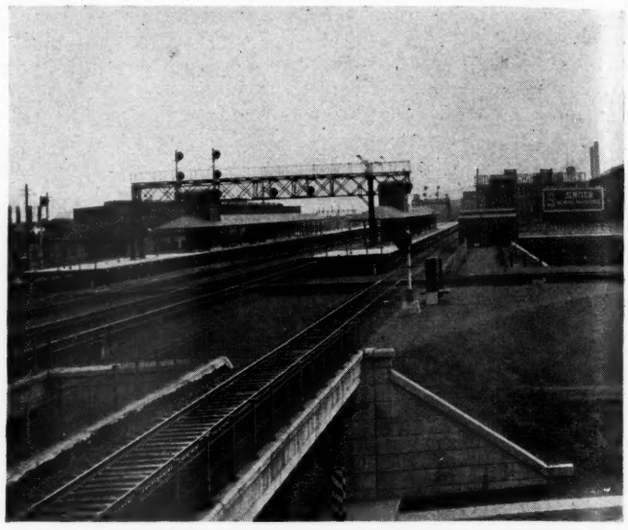
East of the crossing the change in the main-line grade extends to the freight "duck-under," while to the west it reaches nearly to an existing underpass at Division street, a distance of about 7,500 ft. Hence the project required the raising of the main-line and freight-yard tracks for practically the entire length of the yard, the raise being a maximum at the east end and running out near the west extremity. The yard tracks were so raised as to form a crown in the roadbed, the amount of the raise being a maximum near the longitudinal center line of the yard and growing progressively smaller each way from this line. By this expedient better drainage for the yard was assured, and more favorable grades for the ladder tracks were obtained.

On the N. & E. branch the raise of the grade at the crossing was run off in a distance of about 4,500 ft. on 0.5 and 0.75 per cent grades. To provide connections between the high-level tracks and yard and shop tracks a number of ramp tracks were provided at strategic points. Moreover, to bring the freight track through the duck-under up to the grade of the New York wye at the new level, it was necessary to establish this track on a grade of 0.72 per cent.

New Station Required

The rearrangement of the tracks and grade changes involved in this project necessitated the construction of complete new passenger station facilities. The new facilities are of the two-level type, consisting of a station and driveways at the street level, the main building being located in the southerly angle of the intersection, and platforms at the track level. For serving the main-line tracks, two island platforms at car-floor level are provided, which are connected with the station by a passenger subway that extends entirely through the embankment. Other passenger platforms at the track level are placed along the N. & E. branch connection and the E. & P. A. branch.

As noted at the outset, all main lines and wye connections at Elizabethport are in constant and intensive service and hence no track arrangements involving interruptions to traffic or reductions in the number of tracks could be permitted, and potential sources of delay were required to be held to a minimum. Since traffic handled over the main line includes through passenger trains of the Baltimore & Ohio and the Reading, as well as frequent freight movements, business over this line is particularly heavy. Indicative of the general traffic situation at the crossing is the fact that as many as 650 movements have been recorded through the interlocking in the vicinity of the intersection during a 24-hr. period.

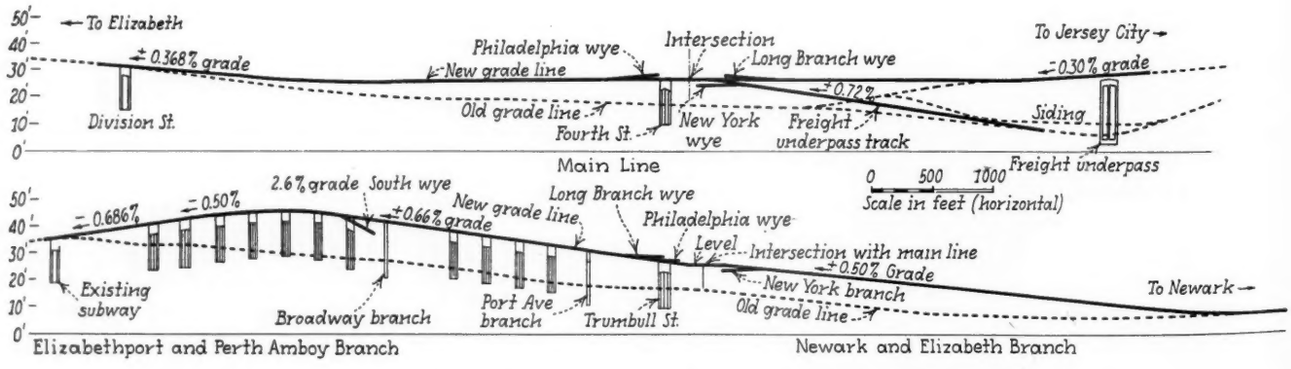


Looking East Along the Main Line From the New Signal Tower

Much Work Done in Clear

Because of the traffic situation, execution of the project was largely a question of carrying out the grading, bridge construction and other work in the clear of the low-level tracks to the fullest possible extent and then, by a series of quick moves, of shifting traffic to the high-level tracks. This initial work was undertaken late in 1936 and about 14 months were required to bring it to the point where the traffic shifts could be started. It included the grading and construction of bridges on the E. & P. A. branch, the Long Branch, Philadelphia and Newark wyes, and the grading for the embankment on the N. & E. branch. During the conduct of the preliminary work, traffic was handled on the existing or temporary low-level tracks.

The first track shift involved the Long Branch wye and was occasioned by the necessity of removing the existing switch connection between this wye and the main-line tracks so that the latter could be shifted to permit work to proceed on the main-line embankment and the new passenger-handling facilities. Therefore, as soon as the progress of the work permitted, traffic on the Long Branch wye was shifted from the old low-level tracks to the new high-level tracks, which, after passing over the new Trumbull Street bridge, dropped off on a sharp grade in order to make a connection with the E. & P. A.



Profiles of the Main Line and the Two Branch Lines at the Elizabethport Intersection

branch at the low level. Since the new Long Branch wye connects with the main-line tracks at a point about 3,000 ft. east of the intersection, or near the end of the grade change in the main tracks, it was possible to install this connection before the main-line tracks were raised.

Following this move, the main-line tracks were shifted two spaces to the south through the station area, thereby permitting construction work to proceed on the northerly portions of the pedestrian subway and the main-line embankment, and also on the new westbound passenger platform. This move also made it possible to make further progress on the construction of the Fourth Avenue bridge, work on which had previously been underway in the clear of the tracks. The shifting of the main-line tracks to the south required the removal of the existing passenger station, and a temporary frame station was erected for the handling of passenger business during the remainder of the project.

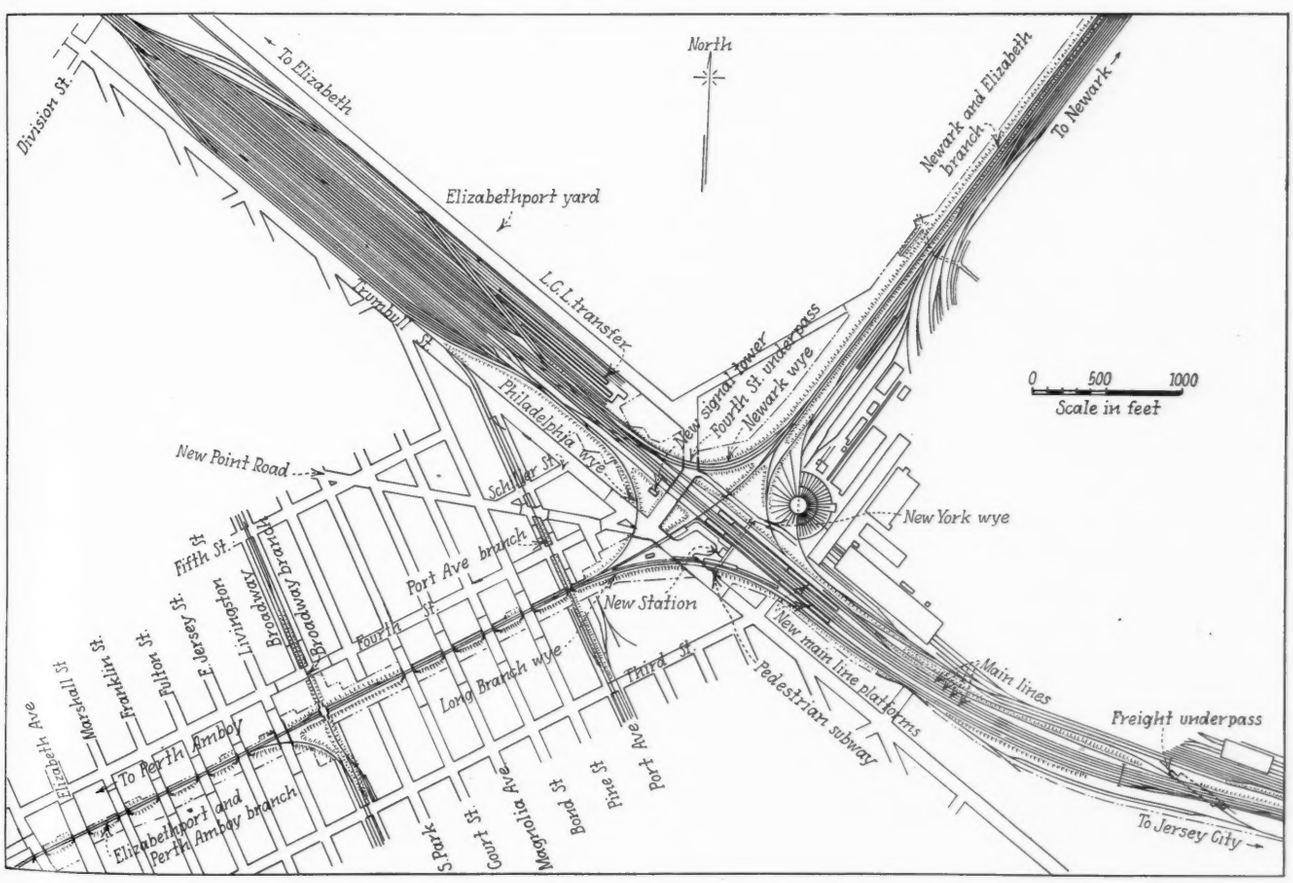
The next step involved the shifting of traffic to the high level on the E. & P. A. branch and the Philadelphia wye. This operation was complicated by the fact that the connecting line between the two branches, in making a connection with the E. & P. A. branch at the low level, passed at the low level between the elevated Long Branch wye, now in service, and the elevated E. & P. A. branch which had not yet been placed in service. However, the change-over was accomplished by raising the low-level tracks to an intermediate grade, successively shifting them to the new alinement, and then lifting out the sag by raising the tracks to the final grade under traffic.

When these shifts had been completed all the elevated tracks south of the main line had been placed in service, except for the connecting line between the two branches, which still crossed the main line at the low level and which rose sharply immediately south of the main line to connect with the elevated tracks. In the next major shifting operation the elevated Newark wye was placed in operation, along with the N. & E. branch, although for the time being a low-level line on this branch had to be continued in service in order to maintain a connection with the E. & P. A. branch by way of the low-level crossing.

Probably the most important traffic shifts involved in this project were those required when the railroad crossing was raised to the high level. Preparatory to making this shift, the embankment for the new N. & E. branch crossing, which is about 100 ft. west of the location of the old crossing, was completed except for a gap where the main-line tracks passed through it. The preparatory work also included completion of the bridges carrying this line across Trumbull street and the shop drive north of the main line. Also, the northerly portion of the main-line embankment was completed except for a gap to permit the old crossing track to pass through at the low level.

When these preparations had been consummated, the gap in the main-line embankment was filled and traffic on the main line was shifted to the high level. During the work of filling this gap and shifting the main-line tracks, which required two and one-half days, traffic passing between the two branches was handled in a switch-back operation by way of the Newark and Long Branch wyes and the main line at the low level. In other words, southbound traffic, moving on the high-level tracks, passed around the Newark wye, also at the high level, thence easterly on the main tracks at the low level, and then around the Long Branch wye. Northbound traffic followed the same route in the reverse direction.

When the main-line traffic had been diverted to the



Plan of the Present Track Layout at Elizabethport, N. J.

new high-level tracks, the work of filling the gap in the embankment for the connecting track was started immediately. Pending the completion of this work and the placing in service of the connecting track at the high level, which required one and one-half days, traffic moving between the two branches was handled in the same manner as explained above, except that it passed over the main-line tracks at the high level. Consummation of the foregoing steps made it possible to remove all of the low-level tracks in the vicinity of the station and to proceed with the construction of the southerly portions of the pedestrian subway, the Fourth Street bridge, and the main-line embankment, together with the eastbound platform and other facilities.

During this phase of the project, westbound passenger business was handled at the new track level on a temporary platform while eastbound passengers used the completed westbound island platform, both of which were reached through the completed portion of the pedestrian subway. When the progress of the work permitted, the remaining main-line tracks were constructed (there are six tracks through the station area), thereby permitting the eastbound platform to be brought into service. In the meantime the elevated New York wye had been connected with the other high-level tracks and, as the final step in establishing all track connections at the new grade, a complete new interlocking* was placed in service, the control tower being located in the angle between the Philadelphia wye and the main tracks.

A total of about 500,000 cu. yd. of embankment material was placed on this project. This material was obtained from an earth spoil bank in the vicinity and from excavation operations at the various subways and elsewhere on the project, but more than one-half of the total amount of embankment required was placed where the tracks were raised under traffic; and all this material, consisting mostly of cinders and slag, was brought in by train haul using bottom-dump cars. The remainder of the embankment was placed largely by dump trucks, and for distributing and consolidating this portion of the fill crawler-mounted bulldozers were utilized extensively and proved exceedingly useful.

Design of Bridges

The street bridges that were constructed as part of this project involve a variety of designs and types of construction. All such structures on the E. & P. A. branch (excluding the Trumbull Street bridges) have reinforced concrete flat slab decks carried on concrete abutments and columns at the sidewalk lines and at the center lines of the streets. At the Trumbull Street crossings, which involve skew layouts and somewhat longer spans than on the E. & P. A. branch, the bridges are of half-through girder construction, on concrete abutments and piers, with floor systems of I-beams encased in concrete and reinforced concrete decks. In the case of the structures carrying the Long Branch wye and the connecting track between the two branches the construction in each case includes passenger platform space on one side at the track level, the floor members of which are supported on the outside by a facia girder. The girders in the Trumbull Street bridges are encased in concrete and all facia girders are surmounted by metal balustrades.

Those bridges that carry the main-line and the Newark wye over the Fourth Street underpass have I-beam decks spanning between concrete abutments and structural steel bents at the curb lines and in the center of the roadway. The floor beams are encased in concrete and support reinforced concrete decks. The bridge carrying the New York wye across the shop drive is a single-span half-through plate-girder structure with a steel plate deck, while that carrying the N. & E. branch across this drive is a single-span I-beam structure with a reinforced concrete deck. Similar spans are used for carrying the E. & P. A. branch across the Port Avenue and Broadway Branch lines.

Station Facilities

The new station facilities that were built as part of this project embrace special features of arrangement imposed by the peculiarities of the track layout. Thus, the station is so arranged in the space between the main line and the Long Branch wye that the north end joins with the pedestrian subway while the opposite end connects with a stairway leading to the track level on the Long Branch wye. The station is reached from Trumbull street and faces to the west where it fronts on an open space in the angle between the main line and the connecting track, which contains a parking area, sidewalks, and a driveway. To permit the free interchange of passengers between the main line and the Long Branch wye (E. & P. A. branch), and also to provide access to the platforms on the main line from the street without the necessity of passing through the station, a covered passageway is provided along the rear of the station on the line of the pedestrian subway.

Of brick and concrete construction, the station is modernistic in design and presents an attractive appearance. With the exception of a head house at the north end containing a baggage elevator, the station is one-story high and has a flat roof. The men's room and the boiler room are separated from the ticket office, waiting room, and women's room by the passageway, thus producing a structure of irregular dimensions, but approximately 50 ft. by 100 ft. in plan. A newsstand is housed in a separate structure which is similar to the station in design and construction.

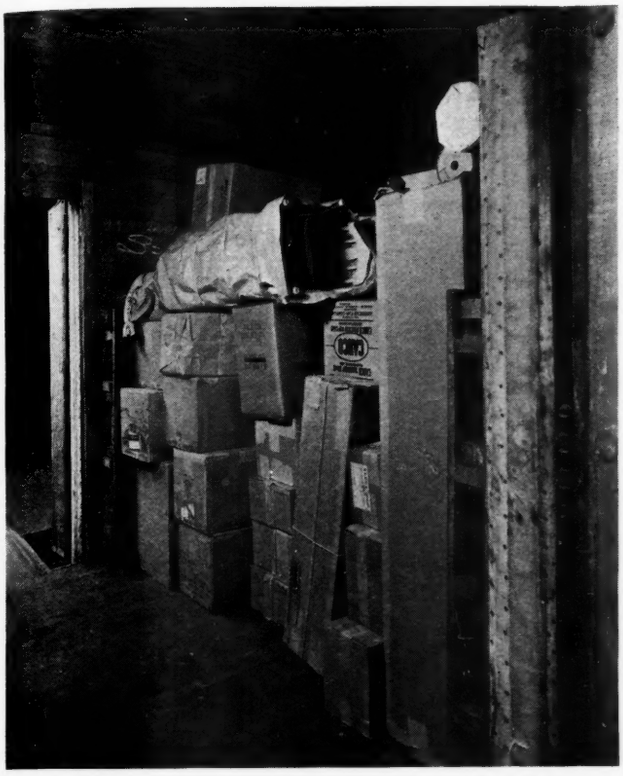
In addition to the elevator at the north end of the station, from which baggage or express may be distributed on the high level to trains on either the Long Branch wye or the N. & E. branch connection, a baggage elevator is provided at each of the main-line platforms. The latter platforms have reinforced concrete decks supported on bents of precast concrete piles, and are partly covered with gable-type canopies consisting of frame roofs supported on structural columns. Each platform on the main line also embodies an enclosed waiting room of brick construction. Other shelters at the track level include canopies with enclosed waiting rooms along both the Long Branch wye and the connecting track, and a canopy without an enclosure in the angle between these lines south of Trumbull street. Connecting sidewalks are provided between the different facilities at the track level and additional stairways are located at strategic points.

All work in connection with the planning, design and execution of this project was carried out under the supervision of the engineering department of the railroad, of which A. E. Owen is chief engineer. The cost of the project was about $5,000,000, which was shared by the Federal Emergency Administration of Public Works, the State of New Jersey and the railroad. All track, signal and telephone and telegraph work involved in the project, as well as all grading where the raising of tracks under traffic was involved, was carried out by company forces, while the construction of bridges, buildings, sewers, and street pavement, and the placing of all embankment in the clear, were done under contract.

* This interlocking was described in detail in the April 8 issue of the *Railway Age* in an article by F. W. Bender, signal engineer of the Central of New Jersey.

What About L. C. L.?*

Superintendents consider possibilities of regaining merchandise traffic and how it should be handled



How Can Merchandise Traffic Best Be Increased and Handled Promptly?

WHAT are the principal factors that should be checked in making a survey of railroad less-than-carload freight operations? The answer depends, of course, upon the objective. Following are among the purposes of a general or specific survey:

1. To obtain facts about performance, cost, and efficiency from a shipper-and-receiver standpoint, and to investigate opportunities for increasing the tonnage of l. c. l. handled by the rail lines.

2. To obtain facts about performance, cost and efficiency from a railroad viewpoint.

3. To make a complete survey of station facilities, l. c. l. handling equipment, freight house organization and operation, cars and trucks and tonnage handled, etc.

Following are the questions that should be answered in determining whether l. c. l. traffic is being handled properly:

1. Is pick-up and delivery freight given early morning delivery?

2. Would earlier opening of freighthouses provide better service?

3. Would handling of merchandise cars on Sundays and holidays advance the movement of an appreciable amount of transfer freight?

4. Could more prompt line-haul movement be arranged to attain earlier placement of merchandise cars at freight houses?

5. Would staggering of forces, or utilization of night forces allow more prompt unloading of cars?

6. Would use of motor trucks in lieu of cars between stations permit faster through freight movement?

7. What changes in waybill and freight bill preparation can or should be made to avoid delays either outbound or inbound?

8. Would better loading of l. c. l. freight into cars, or better observance of station order, or loading of city freight in doorway, help way freight or destination handling?

9. Would preferred classification in trains help achieve earlier placement at destination enough to warrant such set-up?

10. Would additional set-out cars on overnight runs reduce over-all time on enough freight to warrant use of more cars?

11. Is transfer freight given expeditious handling so it will depart from the transfer station on schedule?

12. Are there opportunities to change l. c. l. routing and tariffs to provide handling through good-service junctions rather than through slow-movement junctions?

13. What opportunities exist for use of refrigerator containers? For curtained refrigerator cars? For bulkheads? For improved handling devices?

14. What opportunities exist for profitable auxiliary over-the-road truck service co-ordinated with freight train schedules for improvement of over-all l. c. l. movement?

15. Are loading orders being complied with? Any need to adjust to take advantage of service changes or otherwise to provide better over-all movement?

16. What is your l. c. l. handling index?

17. Has detailed analysis been made of all traffic handled at each of the larger stations and transfers?

A check of these factors may, after study by operating officers supplemented by conferences with traffic officers, open up available avenues for more overhead loading, for higher average load per car, for per diem savings, for a reduction in the number of transfer points or for a combination of transfer and local operations with improved service, and for the organization of transfer stations to prevent delay of freight. A way, too, might be pointed to desirable freight train schedule changes or to possibilities of working l. c. l. freight between trains to provide equal to carload service.

Prior to the inauguration of any program for securing and handling more l. c. l. business, it appears that the situation should be studied somewhat along the following lines:

1. Ascertain what and how much tonnage has been lost, and where. Analyze the business of every important shipper.

2. Why was business lost?

* From a report presented before the American Association of Railroad Superintendents by a committee of which E. J. Stubbs, superintendent of transportation, Erie, Cleveland, Ohio, was chairman.

3. What can and should be done to recover it?
4. Is the business worth the price to recover it?

One competitive transportation research project analysis of the outbound traffic of a large shipper produced the following information.

Forwarded by	Shipments No.	Shipments Per Cent	Lading Pounds	Lading Per Cent	Average Weight per Shipment Pounds
Truck and forwarding company	182	8.3	102,910	4.6	565.4
Express	72	3.3	3,411	0.2	47.4
Rail	509	23.2	1,032,678	46.2	2,028.8
Truck	964	44.0	833,906	37.3	865.0
Forwarding company	143	6.5	43,605	2.0	304.9
Rail and water	239	10.9	130,554	5.9	564.2
Truck and water	82	3.8	86,052	3.8	1,049.4
Totals	2,191	100.0	2,233,116	100.0	1,019.2

Note that 420 shipments traveled more than 400 miles by truck, including more than 100 over 800 miles. Faster service by truck to points within 300 miles of this shipper is what prompts him to give the trucks the business. In several cases the trucks were giving next day delivery, whereas rail deliveries required two or three days. Some of the shipments by truck were to New York City, thence by water, making better time than all-rail shipments. The truck rates, generally speaking, were somewhat lower than rail rates.

Replies to Questionnaire

A questionnaire sent to 47 railways produced the following results:

Question 1. What was the l. c. l. tonnage originated on your line, total l. c. l. tonnage handled and l. c. l. revenue for the years 1928, 1936, 1937 and 1938, and what per cent was l. c. l. of total tonnage handled and total revenue?

For the years 1936, 1937 and 1938 compared with 1928, decreases were as follows: tonnage handled, 47, 44 and 52 per cent; revenue, 47, 46, and 50 per cent. For 1938 compared to 1928, l. c. l. tonnage losses ranged from 27 to 65 per cent, and l. c. l. revenue losses from 33 to 67 per cent. On two important lines, one of which has been especially active in the establishment of fast overnight trains and in rail and highway co-ordination, the per cent of l. c. l. tonnage to the total in 1938 exceeded the same figure for 1928. On 13 out of 28 lines there were progressive increases in the percentage of l. c. l. tons to total tons handled from 1936 through 1937 and 1938.

Question 2. What in your opinion offers the best possibility of increasing profitably the volume of l. c. l. tonnage handled by rail companies?

There was considerable diversity of opinion, but generally answers fell under the heads of regulation, rates and classification, solicitation, and service.

Question 3. What new developments or improved methods for l. c. l. handling have been inaugurated on your line recently? What in view for future?

Answers generally reflected present or proposed activity on one or more of the items mentioned in answers to question No. 2.

Question 4. If your line has put on crews of transportation and traffic men to go over the system and find out why shippers are using competitive forms of transportation, what was developed?

A few lines have put on special crews for this work. The lines that have made these surveys either with regular forces or with special crews report developments as follows: goods sold on delivered basis—shippers making own deliveries in privately owned and operated trucks. Lower rates by truck, made possible by longer hours and lower wages of employees. Trucks serve destinations not served by rail. Additional competitive traffic given trucks to justify continuation of service to non-competitive points. More lenient packing requirements of trucks, made possible by fewer number of transfers. Specialized service by trucks made possible by smaller unit transportation facilities.

Question 5. In handling perishable l. c. l. freight, do you operate scheduled refrigerator car or refrigerator container service (iced or heated in season). Any plus charge?

A few lines are using refrigerator containers. Generally all lines offer some refrigerator car service on l. c. l. perishable freight, although there appears to be wide variance in the number of car lines scheduled. The western lines appear to have the more extensive setups. With few exceptions there is no plus charge.

Question 6. Do you have co-ordinated rail highway operations?

Two-thirds of the reporting lines have co-ordinated rail-highway service. On some the service has been inaugurated or materially extended during the year. One line started June 1. The Pennsylvania, with 87 routes, and the Southern Pacific, with 77, were outstanding. Many railroads reported the use of contractor-owned trucks. Railway Express trucks are also used to some extent. Six lines reported that their trucks are equipped to protect perishable shipments against heat or cold. Use of trucks for handling l. c. l. freight between substations and principal stations in metropolitan areas appears to be quite general in all parts of the country.

Question 7. To what extent has rail-highway co-ordination improved service, increased traffic, proved profitable?

Answers received indicate that co-ordination has improved service, especially for smaller communities and that traffic has increased quite appreciably on some lines. The number of cars required in co-ordinated territory for the handling of merchandise has been materially reduced. Answers were agreed that co-ordination has proved profitable.

Question 8. To what exent are trucks used for handling l. c. l. freight between railroads at junction stations in lieu of car handling? Where cars are used, do the cars generally reach connecting line stations in time for handling the same day?

Trucks are used extensively at all principal junction points for the transfer of l. c. l. freight between connecting line stations. Where cars are used, they generally do not reach connecting line stations in time for handling the same day.

Question 9. For some recent month approximately what per cent of the l. c. l. business handled on your line was given pickup or delivery service performed by railroad? On allowance basis? Handled in ferry or trap cars? To what extent have ferry and trap cars been replaced in the last two or three years by P. & D. service?

40 to 75 per cent of l. c. l. is given pickup and delivery by railroad.

6 to 30 per cent is handled on allowance basis.

5 to 20 per cent is handled in ferry cars.

On some lines the use of ferry cars has practically ceased, while others report no change.

Question 10. Are the railroad trucks used in P. & D. service company, Railway Express or contractor-owned and operated? Is more than one P. & D. operator engaged at individual points on your line? Are shippers or receivers permitted to use their preference dray companies?

There is more or less use of all three classes of trucks.

Ten lines reported only one P. & D. operator per station. The balance reported the use of more than one, some reported many at certain stations. Eleven lines reported shippers and receivers are permitted preferences.

Question 11. At larger stations, between what hours is freight loaded to P. & D. trucks for same day delivery? To station-to-station trucks for highway movements?

Most lines reported freight loaded to P. & D. Trucks for same day delivery up to 10 a. m.; few reported noon or later. Loading times to station-to-station trucks range from midnight or before to 9 a. m. for most lines.

Question 12. To what extent do larger stations and transfers work Sundays and holidays to expedite transfer freight and to speed up following morning deliveries? To what extent have you evening or night operations?

About 25 per cent of the reporting lines operate stations or transfers on Sundays or holidays at one or more points, and about 33 per cent have some evening or night operations. A few start earlier on Monday than on other days, in lieu of Sunday work.

Question 13. At larger terminals where l. c. l. freight is brought in by trains arriving at mid-day or later, what is the latest arrival from which cars can be placed for some-day handling?

Two-thirds of the reporting lines indicate that merchandise cars arriving between noon and 3 p. m. are worked the same day at most stations, depending somewhat on local conditions. Generally such late placement and handling are for purpose of expediting transfer freight. A few lines have evening or night operations and handle cars placed up to 6 p. m. or later.

Question 14. At the larger stations, what is your practice or method to avoid improper loading of l. c. l. freight?

Half of the reporting lines use some form of ballot system. All lines report policing by education, follow up error reports, and intensive supervision.

Question 15. What records of transfer freight are kept at transfer stations? Can positive forwarding of l. c. l. freight be supplied?

More than half of the lines from which answers were received keep some form of record, manifest sheets, tally sheets, or ballots. These same lines report ability to furnish positive transfer records.

Question 16. Do you use special billing for l. c. l. freight? To what extent are merchandise waybills advanced by telephone, teletype, air mail or air express, ordinary U. S. mail, railroad baggage mail?

Fifty per cent of the reporting lines use mani-waybills for on-line shipments to reduce clerical expense and expedite delivery at destination. Three lines report the use of the telephone and one the use of the teletype for the transmission of waybill information. A few railroads use air mail and air express for forwarding merchandise waybills where necessary, and much use is made of ordinary U. S. mail.

Question 17. At the larger stations, is advance information as to the time of arrival of shipments telephoned to consignees?

Six lines report more or less use of the telephone for advising consignees in advance of the arrival of l. c. l. shipments.

Question 18. Are bulkheads or gates used in l. c. l. cars, how extensively, and under what circumstances? To what extent are l. c. l. containers used?

Four lines report regular and extensive use of bulkheads, and three others report occasional use. Generally they are used to prevent damage enroute, but they are also used where schedules permit stop-off or two-in-one cars.

Four lines report regular use of refrigerator containers for loading on regular schedules in box cars. Three more are studying refrigerator container possibilities. The lines using them report savings in the use of refrigerator cars and in merchandise car car-miles, and one of them has had considerable success in building up l. c. l. perishable tonnage by the use of the containers, leading to the use of part refrigerator cars with frigi-warm curtains, and then full refrigerator cars as needed. Three lines report regular use of ordinary l. c. l. containers on open top cars.

Question 19. What are your average pounds per car for all l. c. l. cars? Exclusive of way cars and ferry or trap cars? Has there been recent improvement and to what attributed?

The general average is around 9,000 lb., answers ranging from 5,000 to 13,000. Way cars ordinarily average much less than station-to-station cars. One-third of the reporting lines have had recent improvement, and attribute it either to the establishment of key stations with truck coordination, or to analysis with close supervision to reduce the number of cars used.

Question 20. Does your company have a distinct organization specializing in supervision of l. c. l. performance?

Nine of the reporting railroads have distinct organizations specializing in supervision of l. c. l. performance. Five railroads have special groups of solicitors for solicitation of l. c. l. freight. A few lines report a recent increase in l. c. l. solicitation activities.

Question 21. Assuming schedules of l. c. l. cars are published, what is the scope of their distribution? Are they kept up-to-date by frequent issuance of supplements or revisions?

Eighteen lines reported that l. c. l. schedule books or pamphlets are published and supplied to employees, and to shippers and receivers. All of them attempt to keep these publications reasonably up-to-date by the use of supplements or by reissue.

Question 22. What reports, records and checks of l. c. l. car and freight handling are kept in general or division offices?

Twenty-two lines advised that periodical received-and-forwarded reports showing l. c. l. car performance are furnished to general offices. Wide differences in practice prevail, ranging from close and thorough general and division office supervision of movement of l. c. l. cars and handling of l. c. l. freight to supervision by station and local offices only.

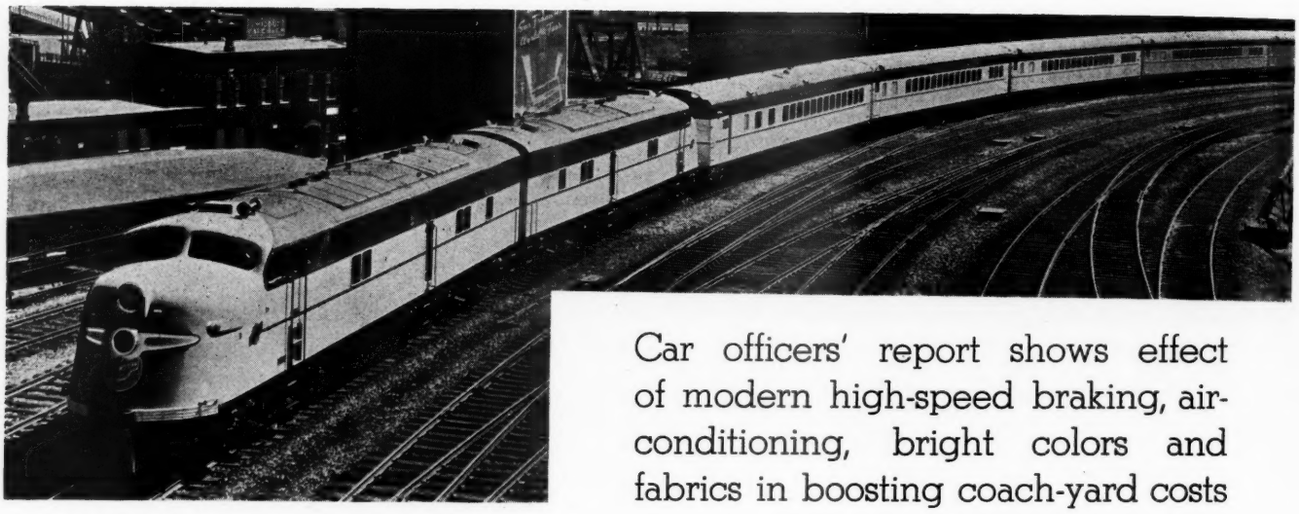
Question 23. How frequently are complete traffic analyses made at larger or key stations and transfers of all l. c. l. received, forwarded, or transferred to determine what if any car schedule or loading order changes should be made to improve service, reduce transfer costs, or both?

Five lines report that analyses, partial or complete, made periodically but at irregular intervals. All lines report more or less activity.

Conclusions

It seems that there is need for further improvement in existing l. c. l. service. An l. c. l. cost formula, simple enough to be used by any operating officer and calculated to produce reasonably dependable and accurate figures, seems to be needed. Generally, the answers received indicate that more or less supervision is given by all lines to l. c. l. performance. The extent of this supervision, however, appears quite uneven as between railroads, judged on the basis either of factors checked or thoroughness.

Handling Passenger-Train Cars at Terminals*



Car officers' report shows effect of modern high-speed braking, air-conditioning, bright colors and fabrics in boosting coach-yard costs

AN analysis of coach yard operations discloses that payroll expense, to say nothing of material expense, involved in the terminal conditioning of modern passenger-trains has increased as much as 35 per cent in the last four or five years without any material step-up in number of units handled. This decided increase in passenger-car maintenance we believe can be attributed to the advent of high-speed streamline trains, involving more complicated truck design and high-speed braking along with air-conditioned cars, light interiors and fittings, all generally used by the railroads in an endeavor to regain passenger travel.

Naturally, these rather drastic changes, as compared with the maintenance of conventional equipment, have had the effect of increasing costs in at least the larger passenger coach yards. Moreover, with longer periods between general shopping of cars, the repairs made, particularly in the instance of trucks, must of necessity be of a heavier character than was formerly performed in coach yards, again resulting in increased cost of coach-yard operation.

With this in mind, the committee decided that information showing the force personnel, equipment handled, operations performed, and data indicating as closely as possible the cost of performing the different operations in the average large passenger-car terminal, would be of interest. Hence, the paper deals with passenger-car terminal personnel and practices.

It must be appreciated that the classes of equipment handled and practices followed in its maintenance, as well as rates of compensation, will vary, and, therefore, the figures submitted may or may not be entirely comparable with other particular operations. The data given here does, however, represent the different classes of passenger cars operated on several large railroads. The practices outlined reflect the predominating policy, and the cost figures are in keeping with safe and satisfactory maintenance and based on summer operation and on the personnel and car handling shown in Table I.

Table I—Average Monthly Payroll and Cost Per Car Handled at Terminals

Force Organization		Monthly Car Handlings	
General car foreman	1	Baggage	1,068
Foremen	2	Mail	477
Assistant foremen	9	Coach	3,781
General clerks	4	Chair	842
Time checkers	3	Dining	448
Car inspectors	8	Parlor	291
Car repairers	30	Observation	98
Carman helpers	12	Buffet	5
Air-brake repairers	4	Pullman	1,802
Passenger-truck repairers	19	Private	2
Acetylene welders	3	Cafe	85
Machinists	5	Lounge	228
Machinists' helpers	2	Bar	41
Coach carpenters	8	Milk-refg.	26
Painters	6		9,194
Triple-valve repairers	3		
Upholsterers	2	**Average monthly payroll**	$50,889.00
Sheet-metal workers	20	Average cost per car handled	$5.53
Sheet-metal workers' helpers	9		
Coach cleaners, outside	76		
Coach cleaners, inside	110		
Laborers	9		
	345		

While it is generally considered practical to determine the number of supervisors required by the amount of

* Abstract of a committee report presented at the annual meeting of the Car Department Officers' Association at Chicago, October 17. The committee was made up of G. R. Anderson, district supervisor of car maintenance, C. & N. W. (chairman); F. E. Cheshire, general car inspector, Mo. Pac.; W. Wheatley, coach yard foreman, N. C. & St. L.; R. K. Betts, foreman car repairs, Penna.; E. J. Hollohan, general foreman car department, I. C., and C. P. Nelson, general foreman, C. & N. W.

force employed, it is found that this cannot under all circumstances be satisfactorily handled in this manner for the reason that the character of the equipment operated, the spread of time of departures, operating conditions, etc., will to a great extent govern. Our study of this particular matter disclosed that all railroads are agreed that adequate supervision in passenger terminal yards is an absolute necessity in order to guarantee satisfactory and economical operation. It was found that most railroads follow the practice of having specialty supervisors assigned to lubrication, air-conditioning and air-brake maintenance as well as cleaning. A typical set-up, based on the force organization and cars handled as indicated above, is given in Table II.

Table II—The Cost of Supervision on a Monthly and Unit Car Basis

1	General car foreman	General supervision
2	Foremen	General supervision
2	Assistant foremen	Repair track (2 shifts)
1	Assistant foreman	Inbound train inspection
		Light repairs—train yard
		Lubrication
1	Assistant foreman	Air-conditioning maintenance
1	Assistant foreman	Air brakes
		Steam
		Sheet metal work maintenance
4	Assistant foremen	Train handling—train yard
12		
	Average monthly cost	$2,937.80
	Cost per car handled	$.319

Air-Conditioning Maintenance

In an endeavor to determine a fairly accurate figure as to the labor cost of maintaining air-conditioning equipment, the committee was confronted with the situation of which we are all familiar, viz., various types of air-conditioning apparatus on different railroads. One railroad will predominate with the steam-jet system; another with gas-engine operation; several railroads are still maintaining a large number of ice-activated cars; and others favor the mechanical system. The data in Table III are based on the maintenance of 100 gas-engine-operated units, 69 ice-activated and 27 mechanical systems (Pullman systems not included), representing a total of 196 cars, summer operation. The cost figures do, however, include the labor cost of furnishing ice to Pullman ice-activated systems which is the practice followed in the majority of the larger passenger terminals.

Table III—Force of Men Employed and Cost of Air-Conditioning Maintenance

Sheet metal workers	11
Sheet metal worker helpers	8
Electricians	8
Electrician helpers	2
Machinists	4
Machinists helpers	3
Carman helper (operate motor tractor)	1
Coach cleaners (icing ice-activated cars)	18
Laborers	1
Average number cars handled monthly	2,745
Average monthly cost	$7,980.71
Average cost per car handled	2.91

Inbound Train Inspection

Our investigation as to the practices followed in the inspection of passenger trains arriving off the road disclosed that the arrangement on the majority of railroads is more or less identical; that is, to make the inbound inspection after the train has been placed on the designated track in the coach yard. One or two instances were found where the cars were given a thorough inspection in the passenger terminal immediately upon arrival, designating any existing defects by chalking. We also found railroads following the plan of raising box covers, inspecting journal bearings and setting waste to the journal immediately upon arrival of the equipment, which in the latter case would appear to be good policy, particularly in the winter months and before the waste is given an opportunity to become frozen and difficult to service. The layover time, however, in the passenger station governs whether or not these practices can be followed. Very often it is necessary to clear the track immediately the passengers are discharged. We do believe, however, that if there is not sufficient time to service the journal boxes in the passenger terminal, during the winter months at least, this action should be taken immediately upon arrival of the equipment at the coach yards. It will be agreed that, in the instance of inspecting wheels and locating truck defects requiring thoroughness in inspection, the best place to make this inspection is in the coach yard. For this work eight car inspectors are employed and the average number of cars inspected monthly is 91.94; average monthly cost, $1,133.53; an average cost per car $.12.

Repair-Track Performance

Again repair organization and class of work performed depends to a great extent on facilities, and the amount and character of cars operated. The following analysis was arrived at on the basis of 9,194 monthly car handlings and of the classes set up in the first item. It is probably unnecessary to mention that adequate facilities play a very important part in the economical and prompt handling of passenger cars over the repair track. Generally, most of these tracks were found to be housed over, equipped with drop-pits for changing wheels and with wheel storage in the immediate vicinity, electric car pullers, wheel lathe, electric welding machines, power jacks and equipment of similar character. Where repairs are performed during the night hours, a well lighted building, as well as illuminated drop pits, are important.

As previously indicated, deferred shopping of passenger cars has resulted in an additional burden being placed on the coach yard organization in the maintenance of passenger cars of which trucks and draft gears play a very important part. Therefore, a properly-equipped repair track is of vast importance. It certainly will be agreed that the wear and tear on running and draft gears of passenger equipment is considerably greater than with

Table IV—Types of Cars Receiving Repair-Track Attention in One Month and Average Cost

Class of car	System	Foreign	Pullman	Streamline
Baggage	115	26	..	1
Mail	41	..	..	..
Combination	34	..	..	..
Smoker	15	..	..	..
Coach	183	49	..	5
Chair	2	..	..	..
Parlor	23	..	..	..
Dining	49	7	..	3
Lounge	34	12	..	..
Bar	..	..	..	1
Observation	..	..	..	1
Pullman-Standard	..	..	213	12
Pullman-Tourist	..	..	96	..
Horse	3	..	..	..
Milk	4	..	..	..
Private	1	..	..	..
Refrigerator	..	9	..	..
	504	103	309	23

Passenger truck repairers	19
Acetylene welders	3
Carman helpers	2
Average number cars repaired monthly	939
Average monthly cost	$4,527.12
Average cost per car	$4.82

any other part of the car and that to continue a car in service comparative with the balance of the structure, periodical repairs of a heavier nature are necessary. This practice is being followed in that springs, truck hangers, bushings, levers, draft gears, lug castings, brake beams, pedestals, journal boxes and couplers are being renewed, a separate location being set aside for this purpose. A statement of the number of system, foreign, Pullman and streamline cars receiving repair-track attention in a month's time and the cost involved in making such repairs is given in Table IV.

A modern wheel press, equivalent to an output of 15 pairs of wheels in eight hours and located in the immediate vicinity of the repair track, is a good investment. Of course, the demand to a great extent will govern as to the capacity of the press. In one particular yard, wheels changed in a month's time amounted to approximately 390 pairs, almost identical with the output of the wheel press. Without giving any detail as to wheels changed, etc., it would appear that the cost per pair turned should not exceed 78 cents. We find that, with the operation of streamline and other high-speed equipment, wheel renewals have greatly increased, largely on account of irregular tread and flange wear. In a great number of cases the wheels were not condemned by gage but by visual inspection, the underlying reason being "hard riding."

Light Repairs Other Than Repair Track

It is believed there is economy in definitely setting up the character of repairs that can be satisfactorily made in the train yard proper and those necessitating the movement of the car to the repair track, for the reason that, in the latter case, considerable expense is involved in the switching of the car to and from the repair track to say nothing of the possibility of late departures. Generally light repairs made by the light-repair men in the train yard proper consist of renewal of brake shoes, brake hangers, brake-hanger pins, brake-beam safety straps,

Table V—Types of Cars Given Light Repairs at Other Than Repair Tracks, and Average Cost

Class of car	System	Foreign	Pullman
Baggage	427	93	..
Observation	16	29	..
Coach	782	74	..
Chair	265	257	..
Lounge	156	159	..
Dining	258	59	..
Sleepers	..	..	550
Mail	205	10	..
Parlor	148	..	..
Combination	147	..	..
Bar	29	..	..
Refrigerator	..	5	..
	2435	686	550

Car repairers	15
Average number cars repaired monthly	3671
Average monthly cost	$2,580.04
Average cost per car repaired	$.70

pedestal tie-strap bolts, brake-staff repairs, journal-box covers, cotter keys, hose changing, steam repairs, etc. It is practical to have the material necessary for such repairs stored in convenient locations.

With an assignment of 15 car repairers to this class of work, it was found that the average number of repairs made in a month's time was 3,671, of which 2,435 was performed on system equipment, 686 to foreign and 550 to Pullman cars, as shown in Table V. Incidentally, it may be of interest to know that, out of the total of 9,194 cars handled in a month's time, 10,591 new brake shoes were applied to passenger cars of which 4,924 were applied to Pullman and 5,667 to foreign and system equipment. A condemning limit of 1 in. was in effect on through-service and ¾ in. on system-operated cars. A great number of shoes removed at these limits were salvaged, sorted and reused under suburban equipment.

Lubrication

While considerable has been spoken and written on lubrication, it probably will not be amiss to submit data here as to the more general practices being followed in the care of waste-packed journal boxes. At the outset, we are very definitely of the opinion that the foundation of successful operation depends to a great extent on the proper renovating of waste, particularly waste that has been serviced. While some railroads are contracting the renovating of waste, the majority still have their own renovating plants and there has been a marked trend toward improving facilities in these plants. It is generally agreed that delays to passenger trains on account

Table VI—Cost of Servicing Friction Bearings and Roller Bearings

Friction Bearings—Servicing	
Car repairers	5
Average number cars serviced monthly	6,736
Average monthly cost	$979.68
Average cost per car serviced	$.145
Repacking and Journal-Bearing Inspection—Semi-Annually	
Car repairers	4
Carman helpers	6
Average number cars repacked complete	600
Average monthly cost	$1,425.84
Average cost per car repacked	$2.37
(Above includes inspection of journal bearings)	
Roller Bearings—Servicing	
Car repairers	3
Carman helpers	1
Average number cars serviced monthly	2,457
Average monthly cost	$615.68
Average cost per car serviced	.25
(Involves checking oil level each trip)	

of hot boxes are at a very low figure during summer operation and that the difficulty in this respect actually starts with colder weather, indicating rather definitely that the elements play an important part as a cause of improper lubrication or lack of lubrication during the winter months. Probably the most outstanding problem in this respect is the entry of moisture in the boxes causing oil to become emulsified and waste frozen and adhering to the journal.

It is important, therefore, that in the renovating of waste carrying considerable moisture, the process of moving the waste through the renovating plant include an operation which provides for the thorough removal of all moisture.

As to the periodical repacking and service treating of boxes, it is generally the plan to repack journal boxes on passenger cars at six-month intervals; the spring and fall of the year. When this work is performed, journal boxes are jacked, the brasses removed and those found to be defective changed. At the same time, wedges are gaged and changed where found defective. As to the servicing of waste-packed journal boxes, some railroads follow the system of having boxes felt with the bare hand upon arrival at the passenger terminal and those that are operating above normal temperature, are so indicated by chalking. Upon arrival of these particular boxes at the coach yard, the boxes are jacked and brassed and journals are examined. Other than this, the inspection of the box is merely visual and waste is set up in the prescribed manner and, if necessary, free oil added; it is a good practice during the winter months to have this free oil heated.

In inspecting and servicing roller bearings, insofar as the inspection of the bearings themselves is concerned, it seems to be the general practice to confine the inspection to occasions of wheel change. As to the servicing, there seems to be no uniform policy. Some railroads follow the practice of checking the oil level on each inbound trip while others handle this periodically or on a mileage basis. It is considered good practice to remove the closure plates semi-annually, spring and fall, for changing the oil and making a visual inspection of bearings as far as is possible.

Air-Brake Maintenance

Without entering into any details as to this feature of passenger-car maintenance, it can be truly stated that the efficient maintenance of air brakes, considering present high-speed operation, is of great importance. P. C. Rule No. 7, Item J. outlines the practices to be followed in the maintenance of air brakes. It will be agreed, however, that the cost of maintaining air-brake equipment has almost doubled on account of additional air-brake cylinders as well as additional valves, of which there are approximately 25 different types. The figures given in Table VII indicate the approximate cost of cleaning the brakes and changing valves in the train yard proper as well as the cost of cleaning, testing and repairing the different types of valves in the air brake shop.

Table VII—Approximate Cost of Cleaning Air Brakes and Triple Valves

Air-Brake Cleaning	
Air-brake repairers	2
Carman helpers	2
Average number cylinders cleaned monthly	144
Average monthly cost	$599.76
Average cost per car	$3.47
Triple Valves Repaired (Air Brake Room)	
Triple valve repairers	3
Average number valves repaired monthly	176
Average monthly cost	$520.20
Average cost per valve repaired	$2.95

Car Cleaning

In view of the fact that this committee submitted considerable data with respect to the cleaning of passenger cars last year, it is unnecessary that we deal with the subject at this time. It is sufficient to say that, with the class of equipment that is being operated on most railroads today, practices have materially changed, resulting in an increase of maintenance in this respect. The figures given in Table VIII are based on 9,194 car handlings monthly and include the expense represented in the exterior and interior cleaning of three 14-car streamline trains.

Table VIII—Cost of Car Cleaning, Including Icing, Watering, Window Wiping, Vestibule Cleaning, Removal of Garbage and Furnishing Coal to Dining Cars

Coach cleaners, inside, rate 46 cents per hour	110
Coach cleaners, outside, rate 47 cents per hour	58
Average number cars cleaned monthly	9,194
Average monthly cost	$19,229.55
Average cost per car	$2.09

There are, of course, other operations of importance performed in the average large coach yards, such as sheet-metal work, painting, carpenter work, upholstering, etc., but it was not deemed necessary to go into these features in detail for the reason that the practices followed are more or less general and in keeping with the requirements. We have endeavored, however, to outline the operations in which the greatest expense is involved.

New Books...

Britain's Railways, by Horace Greenleaf and Howard Hayden. 232 pages. 5½ in. by 8⅝ in. Bound in cloth. Published by Frederick Muller, Ltd., 29 Great James Street, W.C.1, London, England. Price 6s net (approx. $1.50)

Written in collaboration by a railroad man of 20 years' service and a well-known educator, this tidy volume presents a well-stocked survey of British railroading for any lay reader, but with special fitness for use in secondary schools. Of particular interest to American readers will be the chapters on the great consolidation (amalgamation) of 1921, on the internal organization of the four main-line companies and on the English handling of freight traffic, which differs greatly from practice in the United States and yet (by reason of its success in meeting the combination problem of short-haul, small-package and many-destination shipments) contains much for the American to admire, borrow and apply in his own sphere.

More than 50 illustrations and a number of maps and diagrams make English railway practices still clearer.

Locomotives of the Atchison, Topeka & Santa Fe System, by S. R. Wood, issued by the Railway & Locomotive Historical Society, Inc., Baker Library, Harvard Business School, Boston, Mass. 96 pages. 6 in. by 9 in. Bound in paper. Price for Members, $1.00; for non-members, $2.00.

This carefully documented work consists chiefly of a list citing every locomotive operated by the Atchison, Topeka & Santa Fe or its predecessor and leased lines from 1869 to 1938. The locomotives are divided into classes and information presented for each unit under the following heads: Number, builder, date, builder's number, subsequent disposition. In the case of early motive power originally operated on independent lines, the original number and road is given followed by the new classification given by the Santa Fe in 1900. Supplementing the list is an introductory text giving a brief resumé of the origin and development of the Santa Fe system, a short discussion of early motive power, an article on modern motive power and a special treatment of compound locomotives, for which the Santa Fe is famed among locomotive students. A group of photographs of various classes of motive power is included in the book.

Model Railroads in the Home, by Earl Chapin May. 248 pages. 5 in. by 7⅜ in. Bound in cloth. Published by Funk & Wagnalls Company, New York and London. Price $2.00.

This book will undoubtedly bring into the world innumerable additions to those hundred thousand enthusiasts who operate complete railroad systems between the coal bin and the wash-tubs after supper. For its approach to an extremely technical hobby is so gentle and alluring that readers will be captured before they can protest.

It is not only an introduction to the art of building and operating railroads in miniature and of forming clubs to place the hobby on an organized, social basis, but as well an interpretation and "apologia" for railroad "fans" generally and a presentation of their life and habits to a laymen's audience. Mr. May classifies the ranks of enthusiasts, for example, as "amateur number-takers," model railroad owners, model collectors, tourers of railroad property, "live-steamers" (that social aristocracy of fandom) and photographic "bugs." A chapter describes each. At the close are practical hints on how to start a model club, with plenty of examples of past experiences to aid, and a chapter on railroad "lingo" to help the budding railroad mogul find his way about conversationally. All is written in a racy come-with-me style by a writer who has been producing books on every conceivable subject for the greater part of his life. But make no mistake,—he is a railroader at heart.

NEWS

The Can Is Tied On T. Q. Ashburn

Succeeded by politician whose career has been to boost transport socialism

Major General T. Q. Ashburn, chairman and president of the government-owned Inland Waterways Corporation since its organization in 1924, resigned on November 14 and on the following day was succeeded by Chester Thompson of Rock Island, Ill., a former member of Congress who was otherwise identified in the Department of Commerce announcement as "an active worker in the Middle West for development of waterways"—one who has since 1927 "been associated with the Mississippi Valley Association." General Ashburn issued a formal statement, referring to a "constant serious disagreement of policy" ever since the I. W. C. was transferred to the Commerce Department and adding that he was asked for his resignation and "was very glad to give it." The Commerce Department announcement refers to the change as having been brought about by "General Ashburn's resignation, accepted by Assistant Secretary J. Monroe Johnson at the direction of Secretary of Commerce Harry L. Hopkins."

General Ashburn's resignation also embraced his position as president of the Warrior River Terminal Company, operating company for I. W. C.'s railroad operating from Birminghamport, Ala., to Ensley, an office which is filled by the I. W. C. board of directors. Along with the appointment of Mr. Thompson, Assistant Secretary of Commerce Johnson announced the creation of the position of vice-president of I. W. C. and the appointment thereto of James S. Powell, I. W. C. comptroller and auditor of the Warrior River Terminal Company. Also, Aubrey Mills, assistant to the secretary of commerce, was named as administrative assistant.

As noted in the *Railway Age* of June 17, the transfer of I. W. C. from the War Department to the Commerce Department was effected by President Roosevelt under authority granted to him in the government reorganization law enacted a short time previously. Shortly after the transfer, as noted in the *Railway Age* of July 22, Secretary of Commerce Hopkins issued an order placing the Corporation under the direction of Assistant Secretary Johnson and providing that General Ashburn would continue as president. The general who since the organization of I. W. C. had served in the presidency as his military assignment was designated by the Secretary of War to continue in that capacity following his retirement from active military service on November 30, 1938.

General Ashburn's above-mentioned statement identified the "constant serious disagreement of policy" to which he referred as one running to "whether the Inland Waterways Corporation should continue to operate as a privately-owned corporation, as provided for by law, or was to become a bureau of the Department of Commerce." Later in the day Assistant Secretary Johnson told newspapermen that "the Corporation is to be run just like Congress said it would—just like a privately-owned corporation—to see if water transportation can be profitable." The assistant secretary paid tribute to General Ashburn for having built up a fine transportation system, but added that "'the secretary and I have thought for a long time that the Corporation needed a little rejuvenation." Comment also came from Chairman Wheeler of the Senate committee on interstate commerce, who had talked with General Ashburn on the telephone on the day the latter's resignation was announced. "I have always felt," said Senator Wheeler, "that General Ashburn did a great job, and I'm very sorry to see him forced to resign."

In referring to Mr. Thompson's association with the Mississippi Valley Association, the Commerce Department statement said that the new I. W. C. president had been a regional chairman of that Association, which is "one of the most active supporters in this country of development of inland waterways." Mr. Thompson was born in Rock Island on September 19, 1893, and in 1910 he became associated with his father in the plaster-contracting business which he took over upon his father's death in 1925. He was elected treasurer of Rock Island County in 1922, and in 1927 he was elected mayor of Rock Island and re-elected in 1929 and 1931. During his administration, "Rock Island constructed one of the most modern terminals on the Upper Mississippi river." In 1932 Mr. Thompson was elected to Congress and re-elected in 1934 and 1936.

N. Y. Railroad Club to Hold Annual Dinner December 7

The New York Railroad Club will hold its 67th anniversary dinner in the Hotel Commodore, New York, on Thursday, December 7. Frank H. Hardin, president, Association of Manufacturers of Chilled Car Wheels, is general chairman of the general committee in charge of arrangements. Clarence C. Fletcher, Room 1544, 466 Lexington Avenue, is chairman of the seating committee.

Public Interest Not Upheld Free

It costs money to provide stand-by plant, is warning by R. B. A. head

Owners of railroads should not be expected to support a stand-by plant to meet emergency demands beyond those of commercial requirements, according to H. A. Wheeler, president of the Railway Business Association, who spoke at the annual dinner of that organization at Chicago on November 9. "There is such a thing in this country," he said, "as the 'public interest,' and the railroads more than any other industry are said to be affected by that interest. I have never seen a definition of public interest that satisfied my own mind. There are many independent thoughts on that subject relating to the various classes or groups that are supposed to have this public relationship. But I am going to contend with you at this time that it is questionable whether the obligation of railroading as a private enterprise is required to meet every demand which may be made upon it by the so-called public interest, no matter what that demand may be or from what quarter it arises.

"And I would like to have you think of this: Public interest, which is said to affect the transportation interests, can be and should be separated into two quite different and distinct phases. First, there is the phase of public interest represented by the commercial, the agricultural, the industrial movement of goods and the broad movement of individuals over the country. That is a true public interest, and any private enterprise that sets up for itself the obligation to serve in this capacity, because of its position in the whole scheme of distribution, must be required to be prepared for whatever variations there may be in the year's traffic.

"But once you get beyond that, you discover a second phase of public interest, and this second phase of public interest is that which purely arises from broad national considerations. It is the demand made by that interest, through national casualties which may occur, through the fact that there may be a large demand from war or defense purposes, from various issues that are strictly of a public and not of a private nature. I want to draw the line between these two, because if we stand today at a point where public interest must be defined, the definition must suit industry and agriculture and distribution and all of

(*Continued on page 803*)

Users Don't Pay Transport Cost

Sears traffic manager fears government ownership unless permitted adequate rates

A leading industrial traffic manager took a tack unusual for one of his profession in a speech before the Women's Traffic Club of Greater New York on November 14. William J. Williamson, general traffic manager, Sears, Roebuck & Co., in presenting his views on "the present transportation crisis," charged that "the American reluctance to pay a compensatory price for transportation" is driving our transportation agencies toward government ownership through "financial anemia." And, according to the speaker, the threat of collapse of the principle of private enterprise in the nation's transportation is a threat to the entire free private enterprise economy upon which hinges the retention of our liberties. Citing the latter aim as our biggest problem, he declared: "Unless we rid ourselves of emotion and approach the transportation problem realistically, there is no hope of the solution of our larger problem."

He then analyzed the present status of various transportation agencies:

"A survey of 18,000 truck lines covering the first nine months' operation in 1938 revealed an operating ratio of 99.65 per cent; in other words, the actual cost of operations alone took practically all the income, leaving nothing for interest, dividends, or new capital. Privately owned for-hire water carriers have been in constant financial distress for the last 25 years. Recently much of the commercial package transport on the Great Lakes has been abandoned. Only a few of the intercoastal lines are operating at a profit. Were it not for government promotion and subsidy, the air lines could not exist on the basis of their present rates. Railroads as a whole had a deficit in 1938 of 123 million dollars.

"The American people have not paid a fair price for transportation service when measured in terms of what they have been required and willing to pay for other essential services and products. Either we have demanded service of an expensive luxury type, or rates have been too low, or the fear of monopoly has encouraged the establishment of altogether too many carriers . . . transportation has cost more to provide and perform than shippers and travelers have paid the carriers.

"It is not a matter of immediate political short-sightedness. It is a matter of a long-time trend of national economic philosophy which has been manifested in the same way, consistently, by succeeding national administrations embracing at least three different political parties."

Mr. Williamson gave it as his opinion that business prosperity generally would not help the carriers, especially the railroads. "The more their business increases, the more oppressive are the burdens already laid on them." In this connection he cited the retirement pension taxes paid by the roads as almost three times greater in percentage than the taxes paid by other business.

In discussing the question of government favoritism the speaker insisted: "The motor carriers must acknowledge their rightful duty of paying a fair price for the use of highways they did not construct and they must adopt reasonable safety regulations. Water carriers operating on improved inland waterways should pay a tollage charge to reimburse government for expensive provision of their channels. Government should get out of the barge-line business without further expensive delay."

I. C. C. Considers Appeal from Court Decision on Motor "Proportionals"

Interstate Commerce Commission attorneys were this week considering the question of an appeal from last week's decision wherein a special three-judge United States District Court at Chicago issued an injunction prohibiting enforcement of the commission's recent order striking down tariffs whereby certain motor carriers in the Middle West sought to publish as "proportional" rates those arrangements with forwarders which were formerly set forth in forwarder tariffs ordered stricken from the commission's files. The commission will decide upon the matter of prosecuting an appeal to the Supreme Court when its legal staff has had an opportunity to study the decision.

As noted in last week's issue, the commission recently postponed the effective date of its order in this I. & S. No. M-247 proceeding from November 10 to December 1.

I. C. C. Denies I. C. and M. P. Store-door Service Petition

The Interstate Commerce Commission has denied a petition of the Illinois Central and Missouri Pacific for a modification of its order in the Official Territory Pick-Up and Delivery Service case so as to waive the operation of the minimum rate provision of 45 cents per 100 lb.

Trucks Growing a Lot Faster Than Private Autos

Motor trucks comprised 14.3 per cent of total motor vehicle registrations in the United States in 1938, as compared with approximately 10.5 per cent of total registrations in 1921, according to statistics published by the Public Roads Administration of the Federal Works Agency. The percentage of increase for truck registrations from 1922 to 1938 was almost 1.7 times as great as the corresponding increase for passenger car registrations. Since 1921 truck registrations have increased faster or have decreased more slowly as compared with the preceding year's registrations for every year except two as compared with the corresponding registrations of private cars.

N. Y. to Build Truck Depots?

Port authority boss says trucks now handle 2 tons of mdse. to one moving by rail

Establishment of "self-supporting" union truck terminals in New York is under consideration by the Port of New York Authority, according to Billings Wilson, assistant general manager of the Authority, in a talk before the Society of Terminal Engineers on November 14. The speaker indicated that the Port Authority (originally established by the states of New York and New Jersey primarily to consolidate railroad terminal operation in New York but whose major activities in recent years has been the construction and operation of vehicular bridges and tunnels) may devote to motor truck terminal service such portion of its present Union Inland Freight Station in Manhattan (designed principally to serve as an off-rail consolidated merchandise freight station for the railroads) as will not be required by the railroads collectively in the future.

Mr. Wilson in his statement also said that the Authority might extend its credit for the actual construction of new proposed terminals "which can be demonstrated to be self-supporting."

It was Mr. Wilson's opinion that the shift in tonnage from railroad to highway which has occurred in the past decade "may require some drastic revision of our thinking on transportation and terminal questions." To back up his contention he cited the following body of statistics. "In 1919, the railroads were handling nearly eight million tons of freight at their Manhattan stations. Today, this tonnage has decreased nearly one-half. An even more striking change has taken place in the handling of l. c. l. freight at New York. By 1932 the Federal Co-ordinator's figures indicated that the trucks were handling almost as much l. c. l. traffic as the railroads. By July 1939, ferry, bridge and tunnel records and clockings on the Boston Post Road indicated an approximate ratio of two tons by truck against one ton by rail.

"Figures reported by the U. S. Department of Agriculture show in 1928 virtually all of New York City's milk supply arrived by rail. Today, more than 50 per cent of the city's milk arrives by truck. Similarly, today 40 per cent of all the fresh fruits and vegetables consumed in New York are handled by truck as is two-thirds of the live poultry supply and more than one-half of the fresh fish. There are 18,000 truck movements a day across the Hudson River via tunnel, bridge and ferry. Of these, about 20 per cent are tractor-trailer units of the type used mostly for long-distance haul. Conservative estimates would lead us to believe that the long distance truck tonnage in this territory probably exceeds 15 million tons per annum."

Ky. Booze Can't Go by Contract

Supreme Court upholds state in restricting liquor hauling to common carriers

The United States Supreme Court, at its session on November 13, in the case of McCabe v. Boston Terminal Company, granted the petition for a writ of certiorari and agreed to review the decision of the Supreme Judicial Court of Massachusetts in an action against a terminal passenger station company by a baggage room employee for injuries sustained while delivering United States mail for the baggage room to an intrastate train. The lower court had reversed a verdict in favor of the employee and ordered judgment for the terminal company, holding that the employee's cause of action arose under the Federal Employers' Liability Act.

In the case of the Alton Railroad Company v. Jackson County, Missouri, the Court denied a petition for a writ of certiorari, and left in effect a judgment of the United States Circuit Court of Appeals for the Eighth Circuit, which had held that under Rule 52 of the new Federal Rules of Civil Procedure an appellate court could review findings of fact. The case arose by reason of an action by the County to recover from the railroad company a portion of the costs of constructing one viaduct and widening another. The company contended that plans approved by the Missouri Public Service Commission were not followed in constructing the viaducts.

At the same session the Court heard the conclusion of the oral argument in No. 40—Union Stock Yard and Transit Company of Chicago v. United States, in which the issue is whether the stock yard company is a common carrier within the provisions of the Interstate Commerce Act.

The Court also granted the Government review of a case involving the validity of certain withdrawals from land grants made to the Northern Pacific. The lower court had ruled that the railroad was entitled to compensation for 1,453,061 acres of withdrawn lands in Wisconsin, Minnesota, Montana, Wyoming, Idaho and Washington, while the Government's withdrawal of approximately 213,000 acres was held to be valid and retainable without compensation to the road.

In its petition to the Court, the government contended that the railroad had lost its rights to indemnity for the land because of the breaches of the original contracts.

In another case of Ziffrin, Inc. v. Reeves, et al., the Court upheld the constitutionality of a Kentucky statute which prohibited the transportation of alcoholic beverages by a motor carrier which has not obtained a "transporter's license" under the statute, and which prohibited the issuance of such a license to a motor carrier which is not operating in the State under a common carrier's certificate issued by the State Division of Motor Transportation.

In the case of the Valvoline Oil Co. v. United States, et al., the Court held that subsections (a) and (e) of Section 19a of the Interstate Commerce Act, which provides for the valuation by the Interstate Commerce Commission of the properties of common carriers subject to the provisions of the Act, are applicable to a corporation engaged in the transportation of oil by pipe line in interstate commerce although its pipe lines are used primarily to transport oil to its own refineries.

The Court further held that the Valvoline Company, which owns some 1,426 miles of pipe line, running to 9,020 wells in Pennsylvania, West Virginia, and Ohio and which gathers some 75,000 barrels of oil per month for its two refineries in Pennsylvania, is a "common carrier" as the term is used in the Act, in view of section 1 (3) which defines the term to include "all pipe line companies, express companies, sleeping car companies, and all persons, natural, or artificial, engaged in such transportation or transmission as aforesaid as common carriers for hire." The words "all pipe line companies" are not qualified by the words "engaged * * * as common carriers for hire," the Court said in its opinion, which was written by Mr. Justice Reed.

Accounting Order Postponed

The Interstate Commerce Commission has further postponed until January 1, 1941, the effective date of its orders prescribing for steam railroads new operating-revenue account 117, "Protective Service-Perishable Freight," and for electric railways new account 108½, "Protective Service Revenue—Perishable Freight."

Truck Certificates for Rock Island

The Interstate Commerce Commission, Division 5, has granted common-carrier trucking certificates to the Chicago, Rock Island & Pacific for operations over routes between Herington, Kans., and Hutchinson, between Eldon, Iowa, and Trenton, Mo., between St. Joseph, Mo., and Herington, and between Horton, Kans., and Fairbury, Nebr. The authority is granted subject to the four usual conditions designed to restrict the highway operations to those which are supplementary and auxiliary to rail services of the applicant railroad.

Canada to Establish Priority Bureau

Regulations providing for priority of movement by land and water of troops, naval forces and munitions of war have been drafted by Canada's Transport Minister, C. D. Howe, at Ottawa.

A "transport controller" will be named and his duties will be to deal with applications for priority of transport. These applications will be made on behalf of the Canadian Government, the British Government and the Government of France and any other government or agency, including those of private business interests.

All transportation companies are required to obey the orders of the controller with respect to priority of shipments, and the Minister of Transport will appoint him.

Rumor has it that T. C. Lockwood, of the Robert Redford Company, Montreal, is slated for the job.

A. A. R. Continues Research Plans

Delving into ways and means to better engines, cars, track and many other items

A program, continuing for the coming year a wide range of research activities designed to result in further improvements in railroad locomotive, car and track construction and in methods of operation, was adopted by the Association of American Railroads at its annual fall meeting in Chicago on November 10. Out of this work are expected to come still more powerful, speedier locomotives built without increased weight, lighter weight cars without diminished capacity or strength, better tracks and bridges and other improvements designed to expedite further the movement of freight and passenger traffic with increased safety and promote savings in operating costs.

One of the most important phases of this research work will deal with proposed improvements in steam locomotive construction in order to increase the speed and power without a proportionate increase in weight or in the use of fuel. Among the matters to be considered will be the development of specifications for a steam locomotive designed to haul a train of approximately sixteen standard passenger cars at a sustained speed of 100 miles an hour. Some road tests in respect to this have already been conducted. This study is being made under the direction of the mechanical engineer of the mechanical division by a special committee composed of railroad representatives and locomotive builders.

At the same time, engineers will endeavor to improve further the design and service of locomotives and increase the standardization of fundamental parts. Another series of tests will deal with refining the counter balancing of the driving wheels of locomotives with the weight of the driving rods connecting the wheels with the cylinders in order to better meet present day operating conditions which require higher speed and in order to reduce track maintenance costs.

The program also proposes that the railroads, under the auspices of the Association of American Railroads, continue to study the question of reducing further, by the use of lighter weight metals and through welding instead of the use of rivets, the weight of freight cars of different types without lessening their capacity or strength. A series of road tests to determine what improvements should be made in freight car trucks in order to make possible a still greater increase in freight train speeds has just been completed.

In addition to research work dealing with locomotives and cars, the program also includes plans for extensive study and experiments looking toward a further improvement in track construction. Experiments also are to be made under the direction of the Association relative to the advantages of building up worn ends of rails and frogs by welding; the advantages

that result from using different sizes of rails; the effects on tracks and bridges of the impact of train wheels under varying speeds and loads; improved fastenings for rails; and the control of corrosion of bridges and track.

In addition, studies are to be made into a wide variety of subjects dealing with other phases of rail operation with a view of improving the methods now in use. These include possible improvements in various electrical devices, signaling and other forms of communication; packing, handling and storing of freight; simplification of stocks; increased standardization of parts; reclamation of old material and the handling of scrap iron; further improvements in safety of employees and passengers; improvements in car oil; effect on track maintenance of water blown from locomotives; and improved methods of caring for sick and injured employees.

In his annual report to members, J. J. Pelley, president, said that the railroads of the United States this fall handled, without congestion or serious car shortage, the most precipitous increase in freight traffic on record.

"With the co-operation of shippers and receivers of freight in bringing about the prompt loading and unloading of cars," he continued, "the railroads have met this demand without difficulty and they will continue to meet any future demands for transportation in the same way.

"In the week of October 21, loading of revenue freight totaled 861,198 cars, the peak week for this year and the greatest number loaded in any one week since 1930. Since the middle of July, there has been a constant climb in freight traffic, which in August averaged 672,290 car loads weekly. Compared with that average, the total for the week of October 21 was an increase of 28 per cent, the greatest increase in loading on record in such a short period of time.

"Early in the summer, we estimated that on the basis of the then existing car supply, the railroads could handle an increase of 25 per cent in traffic and if all the freight cars and locomotives in bad order were repaired, an increase of 50 per cent could be moved without difficulty. Loadings for the week of October 21 were equivalent to an increase of 45 per cent above the early summer level."

Faced by the growing tide of traffic, Mr. Pelley said the Association of American Railroads on September 19 unanimously adopted a resolution which provided that all railroads take immediate steps to place their motive power and cars in shape to handle any possible increase.

"The response by the railroads to this resolution has been spontaneous," Mr. Pelley added. "Since that time the railroads have greatly increased their repair forces which are now actively at work restoring to serviceable condition thousands of freight cars and hundreds of locomotives in need of repair but which because of lack of traffic, have not been needed up to this time. On the basis of incomplete reports, it is estimated that approximately 60,000 cars and 100 locomotives so far have been repaired under the program adopted on September 19.

"At the same time new equipment orders have been considerably stimulated. New freight cars actually placed in service or on order are expected to total at least 65,000 in 1939. In the first nine months of this year, 14,704 new freight cars were placed in service. If it develops that the seasonal movement of traffic continues on a higher level for some time to come than for some years previous, then undoubtedly further equipment buying will take place.

"The railroads this year are expected to place in service or have on order a total of approximately 300 new locomotives. On October 1 there were 68 steam and 40 electric and Diesel locomotives on order, but since then additional orders have been placed. The railroads in the first nine months put in service 45 new steam locomotives and 157 new electric and Diesel locomotives.

"With this new equipment, the repair of existing bad order equipment now intensively under way, the great increase in operating efficiency which has taken place in recent years and with co-operation of shippers and receivers of freight, there is no question but that the railroads will be able to meet transportation demands regardless of their extent."

All officers were re-elected. New directors include E. W. Scheer, president of the Reading, who takes the place of D. J. Kerr, president of the Lehigh Valley; G. D. Brooke, president of the Chesapeake & Ohio, who takes the place of C. E. Denney, now president of the Northern Pacific; L. W. Baldwin, chief executive officer of the Missouri Pacific, who takes the place of Ralph Budd, president of the Chicago, Burlington & Quincy; F. J. Gavin, president of the Great Northern, who takes the place of H. A. Scandrett, trustee of the Chicago, Milwaukee, St. Paul & Pacific; and A. D. McDonald, president of the Southern Pacific, who takes the place of Daniel Upthegrove, chief executive officer of the St. Louis Southwestern.

How Transport Subsidies Encourage Monopolies

Present government policies which favor certain types of transportation by subsidies and freedom from regulation and at the same time prohibit the railroads from engaging in commercial business, through the so-called "commodities clause," actually give advantages to large companies over their competitors and thereby encourage monopoly. This was the substance of an address before the Traffic Club of Atlanta, Ga., on November 13, by Samuel O. Dunn, editor, *Railway Age*, and chairman, Simmons-Boardman Publishing Corporation. The speaker explained that numerous large concerns combine commercial business with the private transportation of their own freight by waterway, highway and pipeline. And with the exception of pipelines, it is just those forms of transportation which receive government subsidy. Furthermore the transportation savings made possible by Government munificence, are generally pocketed by the private shippers,

Said Mr. Dunn: "Virtually all shippers by inland waterways base the prices they charge for their commodities on the *railway* rates, thus adding to their profits the difference between the railway rates and the lower water rates made possible by the subsidy. But a great majority of the farmers and business concerns of the country that pay the waterway subsidy are located remote from inland waterways and have no opportunity to take advantage of them. Chain stores and other big companies operating truck lines on the highways enjoy the advantage of subsidized transportation over competing local merchants who must use railway service because too small to own their own truck lines."

C. A. A. Investigating R. E. A. Air Express Contracts

Contracts between the Railway Express Agency and various air lines, providing for the development and operation of the former's air-express services are being investigated by the Civil Aeronautics Authority, "acting upon its own initiative and pursuant to the powers vested in it by the Civil Aeronautics Act of 1938."

The investigation was ordered recently after contracts between R. E. A. and some 24 air lines were filed with the Authority. The order sets forth that the investigation "is necessary to enable the Authority to determine whether or not the aforesaid contracts are adverse to the public interest, or in violation of any provisions of said Act, and whether or not there are any other contracts between Railway Express Agency, Inc., and any air carrier or foreign air carrier, which are adverse to the public interest or in violation of any provisions of said Act."

C. H. Hogan, Pilot of No. 999, Passes at 89

Charles H. Hogan, who was at the throttle of New York Central locomotive No. 999 when it made its record speed run on May 10, 1893, died on November 11 at his home in Buffalo, N. Y., at the age of 89. He became an engineer for the Central in 1871 and made many special runs for the road. A few months after his famous run, Mr. Hogan was appointed traveling engineer and subsequently became superintendent of shop labor at Buffalo, which position he held until his death.

Mr. Hogan was reputed to have covered a one-mile stretch between Batavia, N. Y., and Buffalo in 32 seconds, or at the rate of 112.5 m.p.h. while hauling the Empire State Express.

October Operating Revenues 17.5 Per Cent Above Last Year

Preliminary reports from 90 Class I railroads, representing 81.8 per cent of total operating revenues, made public by the Association of American Railroads, show that those roads, in October, had estimated operating revenues amounting to $339,895,107 compared with $289,279,715 in the same month of 1938, and $394,561,926 in the same month of 1930. The October gross was 17.5 per cent above that of October, 1938, but 13.9 per cent below October, 1930.

Freight revenues of the Class I roads in October amounted to $285,783,788 compared with $238,447,300 in October, 1938,

and $315,438,979 in October, 1930 — 19.9 per cent above the former, but 9.4 per cent below the same month in 1930. Passenger revenues totaled $27,961,865 compared with $26,821,733 in October, 1938, and $44,792,762 in October, 1930—4.3 per cent above the former, but 37.6 per cent below the same month in 1930.

Want an I. C. C. Job at $4,600?

Announcement has been made of United States Civil Service Examinations for the following positions with the Bureau of Statistics, Interstate Commerce Commission: Chief accountant (transportation statistics), $4,600 per year; assistant chief accountant (transportation statistics), $3,800 per year; senior accountant (transportation statistics), $3,500 per year; and accountant (transportation statistics), $3,200 per year. Duties of holders of the positions, to be under the general supervision of the assistant director in charge of cost-finding, will be to plan, organize, conduct, or assist in the conducting of investigations dealing with the cost of performing specific classes of freight, passenger, or other service by transport agencies; to prepare or to assist in the preparation of reports for inclusion in opinions of the Interstate Commerce Commission relating to the analysis of cost testimony in rate cases.

Competitors will not be required to report for examination, but will be rated on the extent of their education and experience. To qualify the latter may consist of two types: Responsible supervisory experience in the accounting, engineering, executive, transportation, or traffic departments of any transportation agency or experience with a transportation company, regulatory body, or other organization involving analyses of cost of service, efficiency of operation, rate making, traffic trends, or other economic aspects of transportation. Applications must be on file with the United States Civil Service Commission at Washington, D. C., not later than December 4 if received from eastern, southern and mid-western states and December 7 from far-western states.

Accounting Division Issues New Rule Book

The Accounting division, Association of American Railroads, has issued a new edition of "Railway Accounting Rules" containing mandatory interline accounting rules and standard forms, effective October 1, 1939, which have been revised in accordance with action taken at the 49th annual meeting of accounting officers held in Toronto, Ont., June 27 to 29, inclusive. In addition there are contained the current recommendatory rules and forms of the Division. Indexing follows the scheme of the previous issue, effective October 1, 1937, which is superseded.

The most important additions and changes which have been made over the 1937 issue are new mandatory rules in connection with protective services for perishable freight, including waybilling of charges therefor and accounting for charges, allowances and revenues from such services; modifications and additions to rules for charges collected at intermediate stations and several new clauses in the rules respecting factors to be considered by arbitration committees in their decisions. A new recommendatory rule covering distribution of division sheets to freight accounting officers has also been added.

Freight Car Loading

Loading of revenue freight for the week ended November 11 totaled 785,961 cars, the Association of American Railroads announced on November 16. This was a decrease of 19,901 cars, or 2.5 per cent, below the previous week, but an increase of 149,515 cars, or 23.5 per cent, above the same week in 1938, and an increase of 100,035 cars, or 14.6 per cent, over last year.

As reported in last week's issue, the loadings for the previous week ended November 4, totaled 805,862 cars, and the summary for that week, as compiled by the Car Service Division, A. A. R., follows:

Revenue Freight Car Loadings

For Week Ended Saturday, November 4

Districts	1939	1938	1937
Eastern	164,449	144,060	151,353
Allegheny	165,664	119,806	131,992
Pocahontas	61,440	49,808	50,123
Southern	110,775	98,833	109,209
Northwestern	120,205	92,650	94,801
Central Western	126,706	115,519	129,106
Southwestern	56,623	52,291	62,181
Total Western Districts	303,534	260,460	286,088
Total All Roads	805,862	672,967	728,765
Commodities			
Grain and grain products	37,530	39,460	43,428
Live stock	19,839	19,152	18,409
Coal	159,476	128,063	142,547
Coke	12,121	6,267	7,580
Forest products	37,380	28,338	32,326
Ore	56,976	23,496	23,294
Merchandise l.c.l.	159,157	157,834	167,553
Miscellaneous	323,383	270,357	293,628
November 4	805,862	672,967	728,765
October 28	834,096	708,590	768,024
October 21	861,198	705,284	770,156
October 14	844,955	726,142	806,095
October 7	834,694	702,616	812,258
Cumulative Total, 44 Weeks	28,606,472	25,654,754	33,031,248

In Canada.—Carloadings for the week ended November 4 totaled 58,088, compared with 59,903 for the previous week and 54,040 for the corresponding week last year, according to the compilation of the Dominion Bureau of Statistics. Elevators at the head of the Lakes and in the Prairie provinces all reported to be congested with grain—a condition which is restricting loadings.

	Total Cars Loaded	Total Cars Rec'd from Connections
Total for Canada:		
Nov. 4, 1939	58,088	26,805
Oct. 28, 1939	59,903	27,405
Oct. 21, 1939	62,345	28,682
Nov. 5, 1938	54,040	23,153
Cumulative totals for Canada:		
Nov. 4, 1939	2,139,482	996,309
Nov. 5, 1938	2,079,129	899,698
Nov. 6, 1937	2,245,581	1,166,115

Would Deny Purchase of Truck Route by Cotton Belt Affiliate

Examiner Frank A. Clifford of the Bureau of Motor Carriers' Section of Finance has recommended in a proposed report that the Interstate Commerce Commission deny the application of the Southwestern Transportation Company, affiliate of the St. Louis Southwestern, for authority to purchase the motor truck operating rights of Johnson Motor Lines on a route between Dallas, Tex., and Fort Worth. The examiner finds precedent for denying the application on the ground that the interstate and intrastate rights between the termini (the only ones proposed to be purchased) are not severable from those permitting service to intermediate points which the vendor would retain. He goes on, however, to recommend denial also on the basis of the commission's decision in the Barker case wherein acquisitions by railroads and their affiliates were held to be eligible for approval only if they involve operations which are auxiliary or supplementary to train services.

Red Caps Sue for Back Wages

Civil suits to secure more than $2,000,000 in back wages which "red caps" claim is due them since the inception of the Wages and Hours law on October 24, 1938, have been filed in the federal district court at Chicago by the International Brotherhood of Red Caps. Among the railroads named in the first suit are the New York Central, the Pennsylvania, the Chicago & North Western, the Chicago & Western Indiana and the Illinois Central. When the law went into effect, railroads throughout the country instituted an "accounting and guarantee" arrangement by which red caps were required to report tips earned, and these were used to meet the federal minimum wage requirements. This action was challenged by the brotherhood as contrary to the spirit and letter of the law. The union placed the matter before the wage and hour administrator, and he issued new accounting regulations.

Red caps employed at the Washington (D. C.) terminal have filed a similar suit, and others are in prospect at various other points.

New Equipment on Order and Installed

Class I railroads had 28,931 new freight cars on order on November 1, according to the Association of American Railroads. On October 1 they had 23,053 new freight cars on order and on November 1, 1938, there were 5,153.

Of the new freight cars on order on November 1 this year, 16,216 were coal cars, 11,492 were box cars and the remainder were miscellaneous cars, such as refrigerator, stock and flat cars.

In addition, Class I roads on November 1 had 64 new steam locomotives and 72 new electric and Diesel-electric locomotives on order compared with 68 steam and 40 new electric and Diesel-electric locomotives on order on October 1; on November 1, 1938, there were seven steam and 28 new electric and Diesel-electrics on order.

Class I roads in the first ten months of 1939 put in service 17,417 new freight cars, of which 10,418 were box, 6,106 coal cars, 549 flat cars, 160 stock cars, 99 refrigerator cars and 85 miscellaneous cars. In the same period last year 13,009 new freight cars were put in service.

Class I railroads also put in service in the first ten months this year 196 new electric and Diesel-electric locomotives and 73 new steam locomotives compared with 98

electric and Diesel-electric and 160 steam locomotives put in service in the same period last year.

Freight cars and locomotives leased or otherwise acquired are not included in the above figures.

Commission Abandons Alleghany Corporation Inquiry

A short, three-line notice this week revealed the fact that the Interstate Commerce Commission's general investigation of the Alleghany Corporation and the Chesapeake Corporation, both holding companies in the Van Sweringen railroad empire, had come to an end. No reason for the discontinuance was given; the brief notice simply stating that the action was taken "upon consideration of the record in the above-entitled proceeding, and good cause appearing therefor."

Commission attaches indicated, however, that because of the thorough investigation of both companies by the Wheeler subcommittee investigating railroad finance, the commission found it unnecessary to proceed with its own inquiry. Only one formal hearing was held with Commissioner Mahaffie presiding, for the purpose of introducing several formal documents into the record. Also, it was pointed out that Alleghany's role in the Van Sweringen empire had been changed and recent action by stockholders of the Chesapeake Corporation to liquidate the company had so altered the situation as to make further investigation unnecessary.

Accident Details—July, 1938 to July, 1939

Failure to provide adequate flag protection caused 11 out of a total of 87 reported accidents investigated during the 12-months' period ended June 30, which are listed in Summary of Accident Investigation Reports No. 80, recently issued by the Interstate Commerce Commission's Bureau of Safety. Of the total of 87 accidents on which reports were issued by the Commission for this period, 40 are classed as collisions, 45 as derailments, one as a break-in-two and buckling and one as a fire. Passenger-carrying or mixed trains were involved in 40 of the accidents.

Of the total, 23 may be attributed either wholly or in part to roadway influences; 15 were due to rail or switch failures; eight to washouts or landslides. Failures in rolling stock were cited as the cause of 9 accidents. Such mechanical factors included two wheel breakages, one broken journal, two truck failures, two low couplers, one dragging brake rigging and one excessive bearing wear.

Collision with highway vehicles at grade crossings were responsible for nine more reportable accidents, four of which involved gasoline tank trucks, and one a slow moving road-grader. In no instance was the accident attributed in whole or in part to railroad negligence.

The remainder of the accidents, with one exception, may be laid to infractions of operating rules. As noted above, inadequate flag protection was the cause of 11 accidents; two were caused by faulty or improper signal indications; four were due to violations of rule 93 (covering occupancy of main track within yard limits and speed of trains within such limits); one was due to the issuance of faulty orders; one was caused by inadequate protection during a switching movement; one was due to the failure of a track motor-car to clear the main stem; five were attributed to open switches; two were laid to excessive speed; six were blamed on failure to obey signal indications and four accidents occurred at railroad crossings at grade through disobedience of rules or signals governing such situations. The remaining eight accidents may be classed as miscellaneous. The accident excepted above was a fire in a baggage-express car due to improper operation of oil-lamp equipment. A total of 115 deaths and 1042 injuries were incurred in the 87 accidents.

L. I. Carries Almost 16 Million To and From N. Y. World's Fair

A total of 15,727,906 passengers traveled on the Long Island to and from the New York World's Fair during six months of operation from April 30 to October 30, inclusive. This total includes 13,972,457 passengers who used the special "World-of-Tomorrow-for-10-Cents" shuttle trains; 1,237,787 who boarded or disembarked from regular Long Island trains at the fair-ground station; 157,807 who visited the fair in organized parties and 359,855 arriving via excursion trains operated by the Pennsylvania and the Long Island from inland points.

It is estimated that the Long Island carried one out of every four persons visiting the fair, including all employees of the fair and persons admitted to the grounds on working passes. October, the final month of the exposition, brought the best volume to the railroad, when a total of 2,856,757 passengers were carried to and from the fair station. The peak daily load came on Sunday, September 3 (Labor Day week-end) when 228,181 passengers were carried into and out of the Fair grounds. At one period during this day 27 Long Island trains were operated in one direction during one hour on a headway of slightly over two minutes.

Numbers of passengers carried both in regular trains, special shuttle trains and through trains operated to the fair grounds in each month were as follows:

April (1 day)	92,035
May (31 days)	2,194,214
June (30 days)	2,685,893
July (31 days)	2,656,592
August (31 days)	2,478,143
September (30 days)	2,764,282
October (31 days)	2,856,747

Excursion business carried direct to the Fair from various points in New Jersey, Pennsylvania, and states farther south and west increased progressively as the fair continued, as revealed by the following monthly passenger figures:

May	17,550
June	44,667
July	49,466
August	76,804
September	79,728
October	91,640

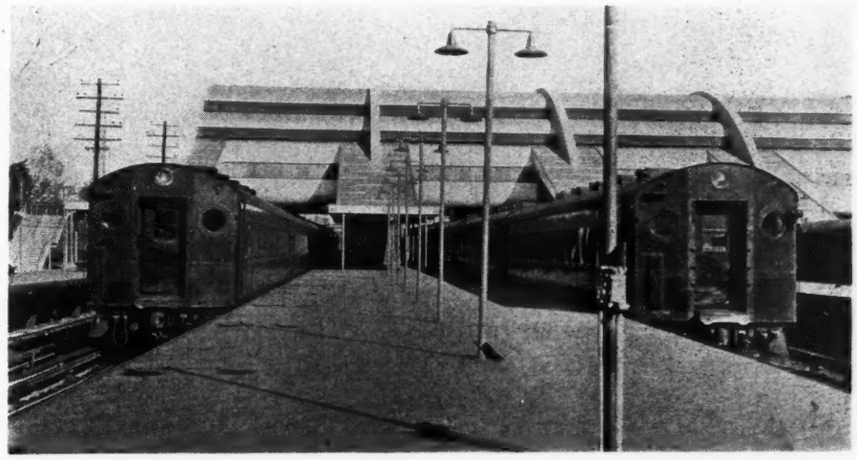
It is reported that a total of 452 extra trains were operated directly to the Fair site over the Long Island by the Pennsylvania alone, and in addition, 255 special fair excursion trains were operated by the Pennsylvania, New Haven, and Lehigh Valley to Pennsylvania station, Manhattan.

To handle the 13,972,457 passengers carried in the 10-cent shuttle service, the Long Island operated 13,469 eastbound and 18,456 westbound trains, or a total of 31,925 trains operated the 8.5 mile distance between the World's Fair station and Pennsylvania station.

Kendall Urges Roads to Keep Empty Car Mileage at Minimum

W. C. Kendall, chairman of the Association of American Railroads' Car Service Division has sent a circular to transportation officers of all railroads urging that every effort be made during the coming Winter and Spring months to keep empty mileage at a minimum. Also, Mr. Kendall sent along copies of resolutions adopted at the recent Chicago meeting of the National Association of Shippers' Advisory Boards with respect to cooperation with railroads in their efforts to provide an adequate car supply and reduce empty mileage.

The "extremely sharp upturn" in loadings during the past two months, Mr. Kendall pointed out, resulted in an "abnormally high" loading of cars off of owners' rails, "and unless every effort is made to make



Long Island Shuttle Trains Carried 13,972,457 Passengers Between Pennsylvania Station, N. Y., and the World's Fair Station Pictured Above

these cars 'earn their way' back to the owners under load, a material increase may be expected in the empty mileage." Thus he suggested "instructions designed to bring about the fullest possible compliance with both the letter and spirit of the Car Service Rules, including utilization of proper ownership foreign equipment to the greatest practicable extent in protecting off line and long haul system loadings, not overlooking, also, the short routing whenever possible of any out of route cars for which loading is not available."

In response to suggestions made at the above-mentioned meeting of the National Association of Shippers' Advisory Boards, Mr. Kendall has also sent to all Advisory Board members a statement setting forth information as to the general car situation. During "the present period of heavy business activity," the Car Service Division will continue to furnish such information to shippers periodically—probably monthly. The statement shows that between September 1 and October 15 the number of cars awaiting repairs was reduced by 43,308 or from 224,603 to 181,295. Meanwhile 14,704 new cars were put in service during September while on October 1 there were 23,053 on order.

Data on the freight car surplus and shortage during the six-weeks period ending October 14, show that local shortages of 721 cars and 125 cars, respectively, were reported in the weeks ended September 30 and October 14, when the surpluses were in turn 70,591 cars and 64,619 cars.

Model of Edison Electric Locomotive Placed on Exhibit

A tiny scale model of Thomas A. Edison's first electric locomotive which hauled parties of guests on experimental runs at Menlo Park, N. J., in 1882, is to be placed on exhibit at various points throughout the country, in celebration of the 50th anniversary of the invention of the primary electric battery by America's noted inventor. Scheduled to appear at the Ohio Electrical Exhibit, Union Terminal concourse, Cleveland, Ohio, November 28 to December 9, inclusive, it has just completed a brief showing at the booth of the Railway & Locomotive Historical Society at the New York World's Fair. The model was presented by the Primary Battery division, Thomas A. Edison, Inc., Bloomfield, N. J., to J. M. Fitzgerald, vice-chairman, Eastern Railroad Presidents Conference, on October 10 and was constructed by E. C. Tompson, assistant advertising manager of the company. The prototype of the model (which is on a scale of 1 to 24) was operated on a three-mile experimental line and received power through insulated running rails collected by "spiders" mounted on insulated wheel runs. A 110-volt dynamo, rated at about 12 hp., supplied the power.

Where Steel Rails Are Made

The present-day capacity and location of rail rolling mills are revealed in a recent study published by the American Iron & Steel Institute, New York. At present the steel industry maintains eight mills for the production of railroad rails weighing more than 60 lb. per yard, the total capacity of which is rated at about 2,575,000 tons per year. The study points out that while this capacity figure is less than that required annually during the peak of railroad expansion, the present facilities probably would be sufficient to meet a demand equal to any in each of the last 15 years.

These eight rail mills are located in six different states. Pennsylvania, with two mills, accounts for about 36 per cent of the nation's capacity, while two rail mills in Indiana account for 32 per cent.

I. C. C. Hears Erie Oral Argument

The merits and defects of the various plans of reorganization under section 77 of the Bankruptcy Act for the Erie were presented to Division 4 of the Interstate Commerce Commission on November 15, when it heard oral argument in F. D. No. 11915, Erie Railroad Company Reorganization. Appearing for the debtor railroad company was Edwin S. S. Sunderland, who explained to the commission that there were only two complete plans in the record, the debtor's plan and the plan of the institutional bond-holders group.

In prefacing his discussion of the two plans Mr. Sunderland stated that during the past few months the road's financial picture had brightened due to the general business improvement. The earnings available for fixed charges for the first nine months of this year will be $7,634,000 as compared with $1,400,000 for the same period of last year, according to the Erie counsel. The October net available for fixed charges will be $2,400,000, he said, while the 10 months net is estimated at $10,000,000. The company expects that the net for 1939 available for fixed charges will total $12,500,000.

He explained that the debtor's plan had originally called for $21,000,000 of new money, while Examiner Brinkley's proposed plan would have required some $18,000,000. Due to the improved cash position during the past few months, the company now estimates that not more than $14,000,000 will be needed to effect the reorganization.

Through the purchase of the Cleveland & Mahoning Valley, a leased line, and the disaffirmance of the leases of several short lines, the company will, in Mr. Sunderland's opinion, save about $200,000 a year in rentals for leased lines. He closed his argument by asking that the commission approve a plan with a total capitalization of $432,000,000.

The institutional bondholders group was represented by Edward W. Bourne, who criticized certain features of the examiner's plan and urged the adoption of his group's plan. Mr. Bourne told the commission that his plan disturbed only seven bond issues, while it also did not take into consideration any of the profits of the Pennsylvania Coal Company and other anthracite companies which are controlled by the Erie. He also said that his group's plan did not take notice of any of the savings which may result from certain litigation now pending over the assessment and payment of railroad taxes in New Jersey.

The institutional plan, according to Mr. Bourne, would reduce fixed charges of the Erie by 50 per cent. He also pointed out that the estimated earnings for 1939 would pay all the fixed charges under his plan and provide for a three per cent return on the preferred stock. It was at this point that the institutional group's counsel asserted that the plan was "the most conservative that the commission has yet received or approved in any railroad reorganization." Also, he is of the opinion that his plan is fairer and more in the public interest than any of the other plans presented in the case.

Mr. Bourne concluded his argument by explaining to the commission that his plan provides for warrants for the present common stockholders and does not cut them off without any interest in the company. He hazarded the guess that in a year or so the stockholders would agree to his plan, despite the fact that they might now oppose it.

J. D. Donnally, counsel for the Mutual

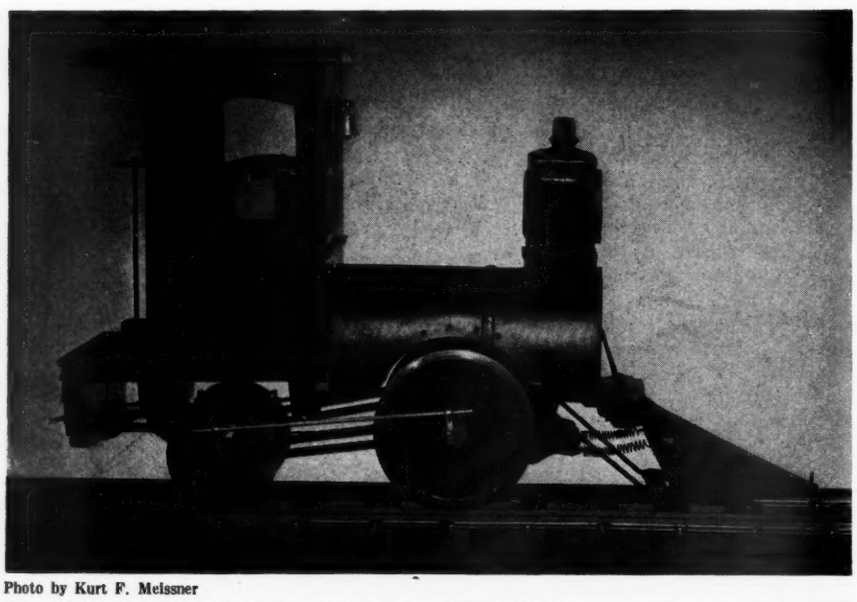


Photo by Kurt F. Meissner

This 1/24th Scale Model of Edison's Experimental Electric Locomotive Is on a Nation-Wide Exhibition Tour

Savings Bank Group, told the commission that his clients approved the institutional plan's allocation of new securities and that he deplored the examiner's departure from the group plan. He also believed that the capital fund should be made mandatory and that the commission should find that the common stock is without value and should not participate in the new company.

Geo. G. Reynolds, counsel for the Guaranty Trust Company as trustee under the Erie's general mortgage convertible bonds, warned the commission that he did not believe either the debtor's or the examiner's plan would be approved by the required two-thirds of the security holders. Asked what he thought about the various plans, Mr. Reynolds said he preferred the group plan.

Frank L. Pinola, counsel for the committee for convertible 4s, protested against the group plan's procedure of according no value to the Pennsylvania Coal Company. He told the commission that this company had at least $3,500,000 worth of value and that if none of the other bondholders wanted the stock of the company, his clients would gladly take it at that value. In his opinion, the anthracite industry has reached the bottom of its depression and is again starting back up the industrial ladder. Its future is by no means dark, Mr. Pinola stated.

Appearing in behalf of the Chesapeake & Ohio, the Erie's largest stockholder, Jervis Langdon, general attorney, urged the commission to approve a larger capitalization than the one recommended by the examiner. He urged that the capitalization be based on a consideration not only of earning power but factors which the commission had recognized in approving reorganization plans for other railroads such as the Chicago Great Western; Denver & Rio Grande Western; and the Chicago & Eastern Illinois, as well as the considerations which had motivated it in approving the issuance of securities under section 20 (a) of the Interstate Commerce Act.

The Erie, according to the reasoning of Mr. Langdon, was clearly solvent in a bankruptcy sense. The crucial question, he said, was the determination of the value of the assets. Under that test, he pointed out, the C. & O.'s equity was much greater than the $15,000,000 assigned to it by the examiner. Mr. Langdon said that the commission could not ignore the considerations that had influenced it in approving securities under section 20 (a) of the Act. Applying this standard, he said, the capitalization would be $150,000,000 greater than that recommended by the examiner. Using physical value, he contended, the increase would amount to $75,000,000. All the C. & O. was asking, he concluded, was that the New capitalization of the Erie should have as fair a relation to its past earnings as have the capitalizations of other railroads to their past earnings record.

C. M. Clay, assistant general counsel for the Reconstruction Finance Corporation, told the commission that with the $7,500,000 loan sought from the R. F. C. by the Erie trustees to purchase the stock of the Cleveland & Mahoning Valley, together with $14,000,000 of new money sought under the plan and a claim of $22,000,000 for money lent to the bankrupt company, the R. F. C. would have a total claim against the new company of some $43,500,000. He then pointed out that the group plan is supported by holders of some $50,000,000 of bonds.

In view of the proportion of the R. F. C.'s $43,500,000 to the $50,000,000 of the institutional holders, Mr. Clay felt that the commission should be careful to see that the R. F. C.'s rights are fully recognized. Also, he did not feel that the examiner's plan gave the R. F. C. too fair treatment.

Public Interest Not Upheld Free

(*Continued from page 796*)

the other economic factors in this country quite as much as it affects transportation. For all of these are affected by the public interest, perhaps a bit differently in certain respects because of their difference in their basic natures but affected nonetheless.

"If, therefore, we have the compulsion to define the public interest with relation to transportation as the carrying of a stand-by plant at the cost of a private enterprise that shall be ready to take any burden which may be placed upon it either by commercial interests or by governmental interests, we definitely face what we have not in hand today in the nature of our service equipment—a situation in which we are not prepared to meet the demand of an extraordinary volume of that kind. I agree that it was a splendid gesture on the part of the A. A. R. in September to say that we will make our service equal to any demand that may come upon us, whether it be of a commercial or of a strictly national type. But I am submitting to you for your further thought and consideration (and I hope you will think this thing through seriously) that we must come to the point where we shall define the nature of the obligation of that public interest to transportation as well as to finance and industry and agriculture. And until we do that, we are not going to see clearly how the trends and the tendencies of this time the world over are going to react to change the character of our American institutions and to change those philosophies which we have held on to during all these years and by virtue of which we have made a prosperous and contented people in the United States."

J. J. Pelley, president of the Association of American Railroads also made a few remarks in which he said that the railroads can meet any transportation emergency that might arise. "I am personally convinced," he continued, "that we who manage the railroads are going to have the opportunity to handle any transportation emergency that might arise without any interference from anybody."

The dinner, which was attended by 1,500 executives of railway and railway supply companies, was preceded by the annual business meeting at which all officers and members of the executive committee were re-elected. Charles E. Brinley, president of the Baldwin Locomotive Works, was elected a member of the governing board and the executive committee to succeed George H. Houston, resigned.

Supply Trade

Clayton P. Innes has been appointed representative in the Omaha, Neb., territory for **Cutler-Hammer, Inc.,** Milwaukee, Wis.

G. T. Dunklin, assistant sales manager of the merchandising division of the **Westinghouse Electric & Manufacturing Co.,** at New York, has been appointed to a newly-created position in charge of installment financing, with his headquarters as formerly at New York.

E. T. Schroeder, Syndicate Trust building, St. Louis, Mo., has been appointed representative in the Southwest for the **Valve Pilot Corporation,** New York. **Rowland S. Folk** has joined the staff of the Valve Pilot Corporation, attached to its sales organization in its New York office.

James L. Ashley, secretary and treasurer of **The International Nickel Company of Canada, Ltd.,** who has been an executive since the formation of the original **International Nickel Company** in 1902, will retire from these positions under the company's retirement system but will continue to serve in an advisory capacity for several months. He remains as a director of The International Nickel Company of Canada, Ltd., and its various subsidiaries. **William J. Hutchinson,** who formerly served as a director and a member of the executive committee of the Canadian Company previous to 1934, was elected treasurer to succeed Mr. Ashley. He was also elected a director to fill the vacancy on the board caused by the resignation of **William W. Mein,** of San Francisco, Cal. **Henry S. Wingate,** assistant to the president of the International Nickel Company, Inc., was elected secretary of the parent company.

Joseph H. Kuhns, vice-president in charge of Eastern railroad sales of the **Union Asbestos & Rubber Company,** Chicago, has been placed in charge of all railroad sales; **William R. Gillies,** vice-president in charge of Western railroad sales, has been placed in charge of production, engineering and research, with headquarters at Cicero, Ill.; **Philip S. Nash,**

Joseph H. Kuhns

Western representative, with headquarters at San Francisco, Cal., has been elected assistant vice-president of railroad sales and service, with headquarters at Chicago,

William H. Gillies

and has been succeeded by **J. L. Adams**; and **W. H. Fehrs** has been appointed assistant to the vice-president in charge of factory operations and management, with headquarters at Cicero, Ill.

Mr. Kuhns entered railway service as a stenographer for the Illinois Central at Chicago, and for several years specialized in the sale of rubber products to railroads. In May, 1920, he was elected vice-president in charge of Eastern railroad sales for the Union Asbestos & Rubber Company, which position he has held until his recent promotion.

Mr. Gillies entered railway service in 1914 in the mechanical department of the Oregon Short Line and in 1916 was promoted to mechanical engineer. He resigned from this position in 1919 to become assistant to the president of the Union Asbestos & Rubber Company, with jurisdiction over the development of products and sales. In 1922, he was elected vice-president in charge of Western railroad sales.

Mr. Nash entered railway service with

Philip S. Nash

the Oregon Short Line in 1911 and after holding various positions in the mechanical department, resigned in 1926 to become service engineer for the Union Asbestos & Rubber Company at Salt Lake City, Utah. He held this position until 1929 when he was promoted to western representative at San Francisco.

Incident to the reorganization of the **Roberts and Schaefer Company,** Chicago, **John J. Roberts,** secretary and treasurer, has been elected president, **John E. Kalinka,** vice-president, has been elected vice-president in charge of the

John J. Roberts

railroad department, **Frank E. Meuller** has been elected vice-president and secretary, and **Frank M. Murphy** has been elected vice-president and treasurer.

Mr. Roberts was born at Tolono, Ill. After attending the University of Illinois, he entered the construction business and in 1897 established a partnership with his brother, Col. Warren R. Roberts. In 1901, he served as an estimator for a general contractor in Chicago, and in 1902 and

John E. Kalinka

1903 was assistant chief estimator for the George A. Fuller Company at New York. In 1904, he helped organize the Roberts and Schaeffer Company and served as its secretary and treasurer until the present reorganization.

Mr. Kalinka was born in Tyrol, Austria, in 1888, and graduated from the Institute of Technology in Vienna. He entered business as an engineer with the Southern Railways of Austria and later entered the Austrian army, serving first in infantry and later as a captain in the Engineering Corps, receiving several medals for meritorious service while serving in military and civil capacities and while commander in charge of large railroad terminal design and construction. After the war he again became connected with railroad and bridge work and acted as a consulting civil engineer in Yugoslavia. He came to the United States in 1923 to engage in the construction of concrete arch bridges around Pittsburgh, Pa. Mr. Kalinka served for one year as an engineer on the Pennsylvania and in 1925 entered the railroad department of the Roberts and Schaeffer Company as a designing engineer, later being promoted to chief structural engineer. In 1932 he was instrumental in introducing Z-D construction into the United States, and in 1934 was made chief of the Z-D construction and railroad department of the Roberts and Schaeffer Company. At the same time he was elected a director. In 1936, he was promoted to vice-president.

Equipment and Supplies

New York Central Program Totals $17,200,000

The New York Central has placed orders for about 64,000 tons of rail and an additional tonnage for track accessories at a cost of $5,700,000 for 1940 delivery. Orders were also placed for five Diesel-electric switching locomotives of 600 hp. each, with the Electro-Motive Corporation. This road's recent purchases of rail, cars (reported in the *Railway Age* of September 30, page 505) and locomotives, amounts to $14,700,000 and material was also purchased at an additional cost of $2,500,000 for use in repairing cars and locomotives in its own shops; this work has been under way since last July. The rail was divided among the Bethlehem Steel Company, the Carnegie-Illinois Steel Corporation, the Inland Steel Company and the Algoma Steel Corporation, while the track accessories were divided among 21 different manufacturers.

LOCOMOTIVES

THE ROBERVAL & SAGUENAY has ordered one freight locomotive of the 2-8-0 type, from the Canadian Locomotive Company, Ltd.

FREIGHT CARS

THE PHILADELPHIA QUARTZ COMPANY has ordered 10 tank cars of 100,000 pounds' capacity, from the American Car & Foundry Co.

THE PACIFIC FRUIT EXPRESS has approved a $10,000,000 program for the rebuilding of 2,500 refrigerator cars and the

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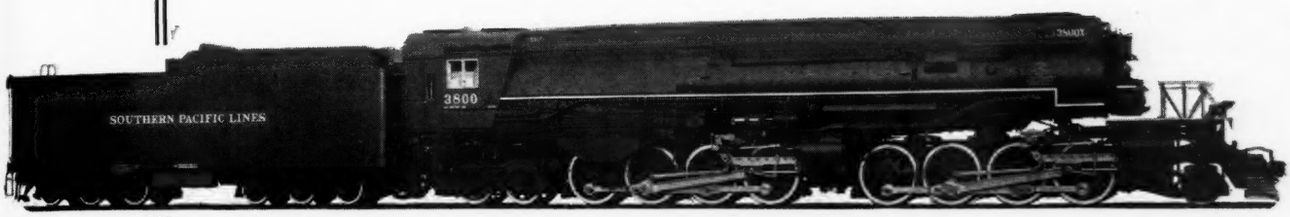
The Giant Grows



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Both the Southern Pacific and Lima are proud of these new giants of the rails. Giants of great strength and fine appearance that will power the Railroad's fast passenger and freight trains through mountainous territory.

LIMA LOCOMOTIVE WORKS INCORPORATED

LIMA LOCOMOTIVE WORKS, INCORPORATED, LIMA, OHIO

repair of a number of others during the first six months of 1940. The 1939 budget provided for the rebuilding of 2,300 cars, 500 of which remain to be completed before the end of the year. In addition, the company is building 25 super-giant cars at a cost of $150,000. At the same time, large expenditures have been made for capital investments other than rolling stock.

THE UNITED STATES NAVY DEPARTMENT, BUREAU OF SUPPLIES AND ACCOUNTS, is asking for bids on November 28, for one steel flat car and one steel box car, both of 50 tons' capacity.

THE UNION TANK CAR COMPANY has been authorized by the Interstate Commerce Commission to construct 100 additional fusion-welded tank cars to be used in further service tests in the transportation of petroleum products.

PASSENGER CARS

THE COMPANHIA DOS CAMINHOS DE FERRO PORTUGUESES has ordered 28 stainless steel, lightweight passenger-train railroad cars from the Edward G. Budd Manufacturing Company. The order is being financed through the Export-Import Bank, with the assistance of the Bank of Portugal.

IRON AND STEEL

THE CHICAGO, ROCK ISLAND & PACIFIC has ordered 10,000 tons of rails from the Colorado Fuel & Iron Co.

THE CHICAGO, BURLINGTON & QUINCY has ordered 12,500 tons of rails from the Carnegie-Illinois Steel Corporation instead of the 4,500 reported in the *Railway Age* of November 11.

SIGNALING

THE LOUISVILLE & NASHVILLE has placed an order with the Union Switch & Signal Co., for the necessary material to provide for the remote control of the functions at "TJ" Tower, Louisville, Ky., from the "A" Street Tower, a distance of approximately 4,000 ft. Low voltage electric switch movements and T-2 dwarf signals in the "TJ" Tower will replace mechanical functions formerly installed at this location, with these new units operated from a control panel at the "A" Street remote location. The order covers the necessary switch movements, signals, relays, transformers, instrument shelters, rectifiers, etc., with the field work to be carried out by the railroad company's construction forces.

MOTOR VEHICLES

DENVER, COLORADO SPRINGS & PUEBLO MOTOR WAY, INC., has ordered three air-conditioned buses, powered with Hall-Scott horizontal engines, from the a.c.f. Motors Company.

THE SANTA FE TRANSPORTATION COMPANY has ordered five air-conditioned intercity buses powered with Hall-Scott horizontal engines from the a.c.f. Motors Company.

Financial

CENTRAL RAILROAD OF NEW JERSEY. — *Reorganization.*—Eugene S. Brooks, Steele Du Bosque, Nicholas S. Hall, and Harland J. Maynard have asked the Interstate Commerce Commission for authority as a protective committee to represent holders of general mortgage four and five per cent bonds of this company, due July 1, 1987, in reorganization proceedings under section 77 of the Bankruptcy Act.

CENTRAL RAILROAD OF NEW JERSEY.—*Dismissal of Application.*—Due to the fact that this company has filed a petition in the United States District Court for the District of New Jersey under section 77 of the Bankruptcy Act, Division 4 of the Interstate Commerce Commission has dismissed its recent application for authority to modify $49,998,000 of general mortgage bonds in connection with a voluntary plan of reorganization under the recently-enacted Chandler railroad reorganization law.

CHESAPEAKE & OHIO.—*Abandonment.*—This company has asked the Interstate Commerce Commission for authority to abandon its Brush Fork Subdivision, extending from Brush Fork Junction, Ohio, to New Pittsburgh, 2.6 miles.

DELAWARE, LACKAWANNA & WESTERN. —*Equipment Trust Certificates and R. F. C. Financing.*—This company has asked the Interstate Commerce Commission for its approval of a plan whereby it would assume liability for and issue $3,100,000 of 2½ per cent serial equipment trust certificates, maturing in 20 equal semi-annual installments, the payments to begin seven months after the date of the issuance of the certificates. The proceeds will be used to finance the purchase of 1,100 freight cars.

ERIE.—*Compensation of Co-trustee.*—Division 4 of the Interstate Commerce Commission has ordered that Robert E. Woodruff be paid at a maximum rate of compensation of $30,000 for his services as co-trustee of this company.

ERIE.—*Susquehanna Terminal Property.* —Federal Judge Clark, in the U. S. District Court for New Jersey, signed an order on November 14 restraining the Erie Terminals Railroad Company from taking any action which would alter the status of its property until the court could decide upon the question of ownership, and appointed Walter Kidde, trustee, New York, Susquehanna & Western (all of whose stock is held by the Erie, but which is now undergoing separate reorganization) as receiver and instructed him to continue to operate the Erie Terminals property at Edgewater, N. J.

In a petition filed by Mr. Kidde as trustee of the Susquehanna there are claimed by his road properties consisting of lines running north and south along the Hudson River waterfront serving many large industrial concerns and originating and terminating freight producing a gross revenue of approximately $8,500,000 annually. It is claimed that the lines in question were built in 1902 as the Edgewater & Fort Lee, a wholly-owned subsidiary of the Susquehanna. In 1907 this property was merged with a wholly-owned subsidiary of the Erie known as the Erie Terminals Railroad Company.

The petition alleges that the latter has been but a holding company holding properties some of which belong to the Susquehanna and some of which belong to the Erie, and asks the court to order conveyed to the Susquehanna trustee all of the property purchased and built with the funds of that company.

FLORIDA EAST COAST.—*Equipment Trust Certificates and R. F. C. Financing.*—This company has been authorized by Division 4 of the Interstate Commerce Commission to assume liability for $1,240,000 of three per cent equipment trust certificates, maturing in 20 semi-annual installments of $62,000 on May 1 and November 1, from May 1, 1940, to November 1, 1949, inclusive. At the same time Division 4 has authorized the Reconstruction Finance Corporation to purchase for itself, at a price not in excess of their principal amount, the entire issue of certificates.

LOUISVILLE & NASHVILLE. — *Equipment Trust Certificates.*—This company has been authorized by Division 4 of the Interstate Commerce Commission to assume liability for $2,025,000 of 2¾ per cent equipment trust certificates, maturing in 15 equal annual installments of $135,000 on December 1 in each of the years from 1940 to 1954, inclusive. The issue has been sold at 104.2987 to Harriman Ripley & Co., Inc., making the average annual cost to the company approximately 2.12 per cent.

LOUISVILLE & NASHVILLE.—*Joint Operation.*—Division 4 of the Interstate Commerce Commission has vacated its order of January 13, 1927, authorizing this company to operate, under trackage rights, over 4.08 miles of line of the Alabama State Docks Commission and 5.3 miles of line of the Gulf, Mobile & Northern in Mobile, Ala. The company's petition had pointed out that although a contract was made for the joint operation, it was never consummated as the need for the operation did not materialize.

NORFOLK SOUTHERN.—*Reorganization.*—Carol M. Shanks, vice-president and general solicitor of the Prudential Life Insurance Company of America, and Wallace D. Dexter, Jr., Treasurer of the New England Mutual Life Insurance Company of Boston, Mass., have asked the Interstate Commerce Commission for authority to solicit from creditors the deposit of their claims and interests in this company under a plan of reorganization and to act for depositors. The new plan of reorganization of this company was reviewed in last week's issue of *Railway Age.*

PITTSBURGH & WEST VIRGINIA.—*R. F. C. Loan.*—Division 4 of the Interstate Commerce Commission has modified its reports of May 28 and October 27, 1932, December 1, 1934, and March 28, 1938, so as to permit the release by the Reconstruction Finance Corporation of its subordinate lien on 611 hopper cars, which are subject

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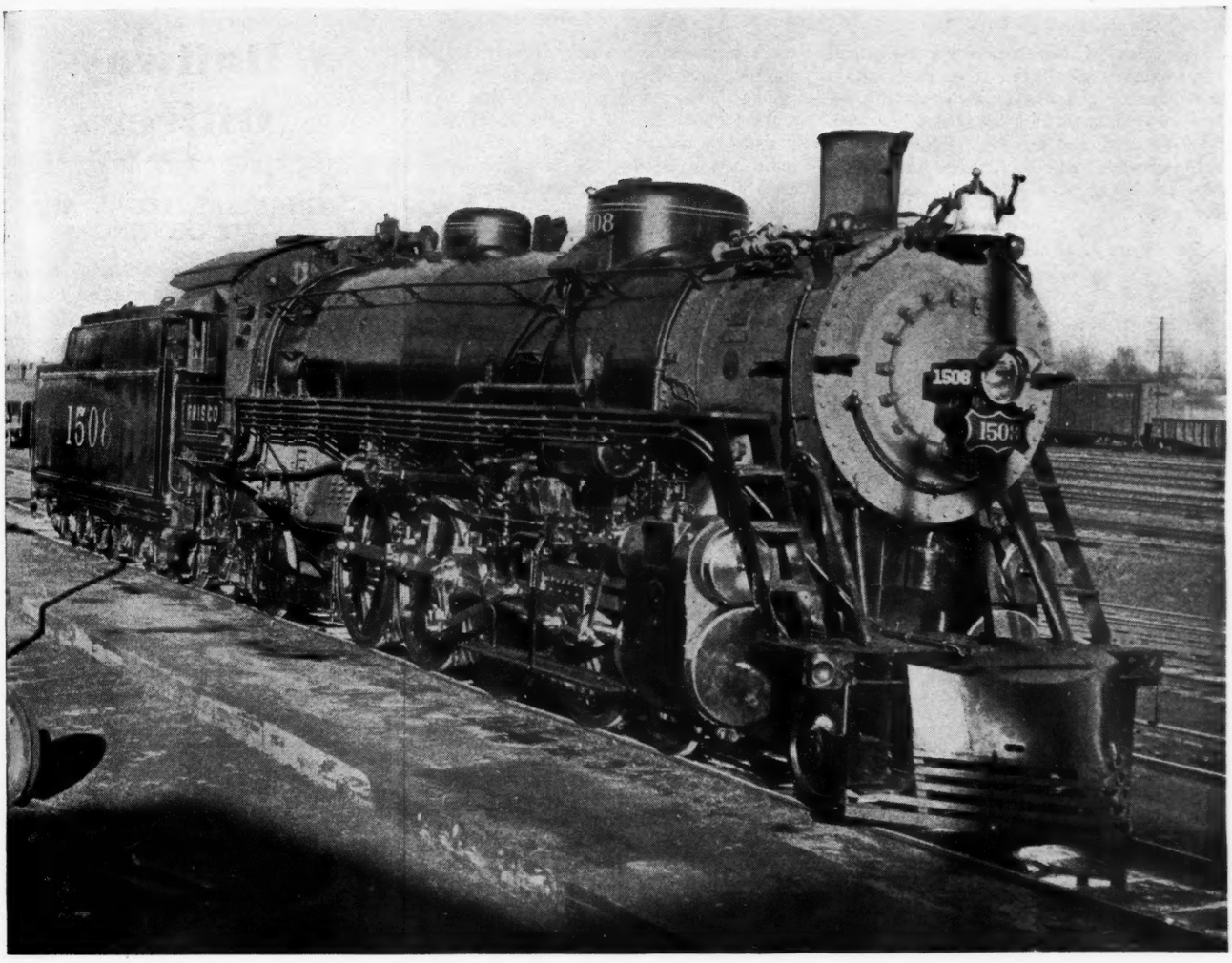
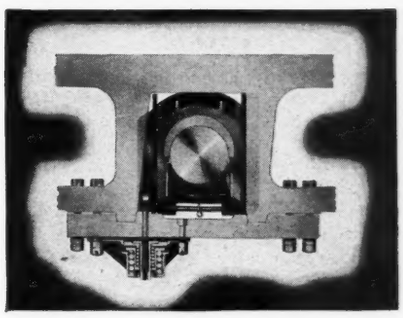


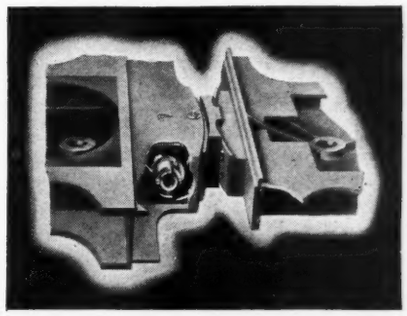
One of a group of 30 Frisco 1500 Class Mountain type locomotives being equipped with E-2 Radial Buffers and Franklin Automatic Compensators and Snubbers.

MODERNIZED
for safety and economy

In the interests of safety, smoother riding, and lower maintenance, the St. Louis-San Francisco Ry. is modernizing its 1500 Class Mountain type locomotives by including E-2 Radial Buffers and Franklin Automatic Compensators and Snubbers. Application of these devices has made them the best riding locomotives on the Frisco system. » » » Install these Franklin twins, and make *your* locomotives easier to ride and maintain.



ABOVE: Franklin Automatic Compensator and Snubber for Friction Bearing Driving Box application. BELOW: Franklin Type E-2 Radial Buffer dampens oscillation between engine and tender and makes for easier riding.



FRANKLIN RAILWAY SUPPLY COMPANY, INC.

NEW YORK
CHICAGO
MONTREAL

to the lien of this company's equipment trust, series of 1936. The modification was granted with the proviso that the 611 hopper cars shall be sold at not less than $330 per car, and the net proceeds of the sale deposited with the trustee for disposition according to a plan submitted by the company.

SOUTHERN.—*Abandonment by the North & South Carolina and the Atlantic & Danville.*—The North & South Carolina and the Southern, respectively, have asked the Interstate Commerce Commission for authority to abandon the line and the operation of the line extending from a connection with the Danville-Norfolk line of the Atlantic & Danville at Virgilina, N. C., to Holloway Mines, 3.8 miles.

At the same time the Atlantic & Danville and the Southern, respectively, have asked the commission for authority to abandon the lines and the operation of the lines extending from Hitchcock Junction, Va., to Hitchcock Mill, 8.3 miles; from Buffalo Junction, Va., to Buffalo Lithia Springs, 3.9 miles, and from Shoulders Hill, Va., to Portsmouth, 8.3 miles.

SOUTHERN PACIFIC. — *Abandonment.* — This company has asked the Interstate Commerce Commission for authority to abandon a part of its McKittrick branch, extending from McKittrick, Calif., to Olig, two miles.

TEXAS & PACIFIC.—*Equipment Trust Certificates and R. F. C. Financing.*—This company has asked the Interstate Commerce Commission for its approval of a plan whereby it would assume liability for and sell to the Reconstruction Finance Corporation $1,335,000 of three per cent equipment trust certificates, maturing in 15 equal annual installments of $89,000. The proceeds will be used in part to finance the purchase of 500 50-ton steel box cars, costing $1,420,610.

VIRGINIAN.—*Securities.*—To carry out its program of splitting the present common and preferred stock this company has asked the Interstate Commerce Commission for authority to issue 1,118,200 shares of preferred stock of a $25 par value in exchange for 279,550 shares of its old $100 par value preferred stock and to issue 1,250,860 shares of common stock of a par value of $25 a share in exchange for 312,715 shares of $100 par value previously issued. The stock will be exchanged on the basis of four shares of new preferred and common for each share of the old outstanding.

In discussing the proposal the company stated that it believed that the change will increase the marketability of the classes of stock; will adjust the price of each share on the open market to a figure more attractive to the investing public; will result in wider distribution of the public's holdings in the stock and consequently broader interest in the road's securities; will enable the road to obtain the listing of its common stock which heretofore has not been listed, due to the lack of sufficiently broad distribution; and will facilitate the financing of its future requirements through the sale of bonds, preferred stock and common stock as may be considered desirable at the time.

The petition also points out that recent market quotations of the preferred, which is listed on the New York Stock Exchange, indicates that the stock is selling around $126 to $132 a share; there frequently being a spread between the bid and asked price of as much as $6 a share. Also, according to the company, the common stock, which is unlisted, is selling in the unlisted market at around $185 to $195 a share, being a spread of as much as $10.

An amendment to the company's charter to provide for the stock split has been approved by the stockholders at a special meeting on November 9.

Average Prices of Stocks and Bonds

	Nov. 14	Last week	Last year
Average price of 20 representative railway stocks..	33.71	33.91	32.28
Average price of 20 representative railway bonds..	59.58	60.19	62.17

Dividends Declared

Illinois Central.—Leased Lines.—$2.00, semi-annually, payable January 5 to holders of record December 11.

Pennsylvania.—$1.00, payable December 18 to holders of record November 18.

Pittsburgh, Bessemer & Lake Erie.—Preferred, 3 per cent, semi-annually, payable December 1 to holders of record November 15.

Pittsburgh, Youngstown & Ashtabula.—Preferred, $1.75, quarterly, payable December 1 to holders of record November 20.

Construction

UNION PACIFIC.—A contract amounting to approximately $100,000 has been awarded the Morrison-Knudson Company, Inc., Boise, Idaho, for the construction of a line change about one mile in length near Oneonta, Ore., in the Columbia River Gorge, to place the track further from the foot of a vertical cliff on the south bank of the Columbia river and avoid the hazard of falling rocks. The contract includes grading, culvert installation, track laying, ballasting and fencing. The Union Pacific will furnish the necessary materials, move and reconstruct one 50-ft. through plate girder bridge and relocate the signal, telegraph and telephone lines. The entire cost of the project will be about $165,000.

UNION PACIFIC.—This company is constructing with its own forces two new 60,000 gal. per hr. lime soda ash water treating plants. One plant, at Rawlins, Wyo., which will supply locomotive boiler water at that point, will cost approximately $60,000. The other plant, at Laramie, Wyo., which will supply locomotive and stationary boiler water, will cost about $64,000. The two plants each consist of one chemical mixing and proportioning machine holding a 24-hr. charge; a steel tank on a reinforced concrete pile foundation (35 ft. in diameter and 72 ft. high at Rawlins and 35 ft. in diameter and 60 ft. high at Laramie) in which the water and chemicals are mixed and the sludge settled out and removed by a sludge removal system; an excelsior filter to clarify the treated water and a chemical storage house with a machine room of frame construction.

Railway Officers

FINANCIAL, LEGAL AND ACCOUNTING

James Lorimer, whose appointment as general auditor of the Canadian Pacific at Montreal, Que., succeeding **C. E. Marchell,** deceased, was reported in the *Railway Age* of November 11, joined the Canadian Pacific as a clerk in the superintendent's department at Winnipeg, Man., on April 16, 1907. He became chief clerk in the division accountant's department in July, 1912, and division accountant there in August, 1920. Mr. Lorimer was appointed general accountant, district accountant's department, Winnipeg, on January 1, 1933, and in August of the same year he was promoted to general accountant of the company in that city. Four years later he was appointed general statistician, statistical bureau, Montreal, and was transferred in the same capacity to the accounting department at Montreal on July 1, 1939, the position he held until his recent appointment as general auditor.

James Lorimer

OPERATING

J. R. McMillan, assistant superintendent on the Canadian National at Edson, Alta., has been transferred to Montreal, Que., and **A. B. Lee** has been appointed acting assistant superintendent at Edson, succeeding Mr. McMillan.

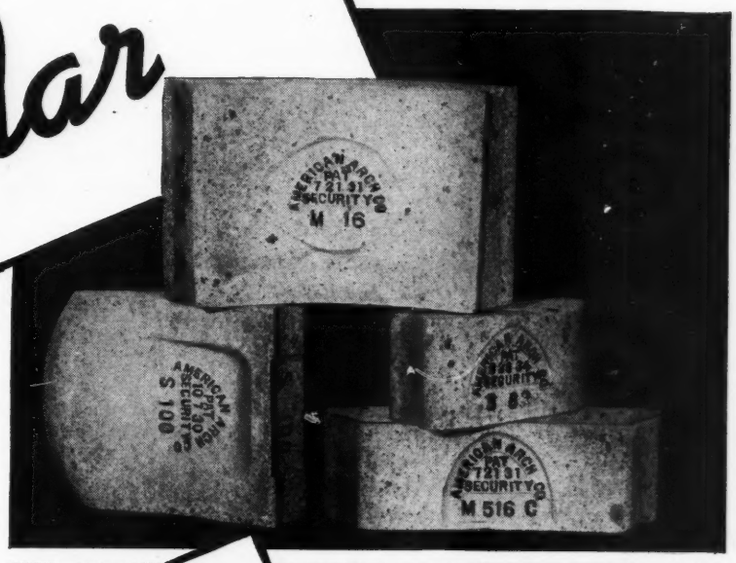
TRAFFIC

Harry Atkinson, whose appointment as general freight agent of the Baltimore & Ohio at New York was reported in the *Railway Age* of November 11, was born on October 30, 1884, at Philadelphia, Pa. Mr. Atkinson was educated in the grammar schools, Drexel Institute and Oxford Preparatory School, Leeds, England. Before entering the service of the Baltimore & Ohio he was with the Baltimore & Philadelphia Steamship Company, Eastern New York & New England Coal Association, Philadelphia & New Orleans Transporta-

Continued on next left-hand page

WOULD YOU SPEND...

1 dollar



TO SAVE..

10 dollars

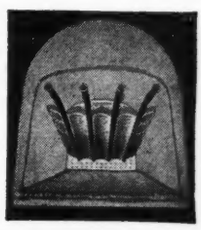
You accept locomotive arches as a matter of course; as a fundamental in locomotive design. But the Arch can only give you the full economy when each course and each arch brick is in place. Paring down the arch in an effort to save $1.00 costs you $10.00 for the extra fuel wasted by the shortened arch.

These proportions have been established by repeated tests on various types of motive power. So against any "saving" in arch brick expense by cutting down the arch, mark up $10.00 on the loss side of the ledger.

There's More to SECURITY ARCHES Than Just Brick

HARBISON-WALKER REFRACTORIES CO.

Refractory Specialists



AMERICAN ARCH CO.
INCORPORATED
60 EAST 42nd STREET, NEW YORK, N. Y.

Locomotive Combustion Specialists

tion Company, John Lucas & Company, Philadelphia, U. S. Shipping Board, and Judson Freight Forwarding Company. Mr. Atkinson joined the Baltimore & Ohio in

Harry Atkinson

April, 1920, as freight representative at Philadelphia, and was advanced to foreign freight agent in July, 1922, being transferred in the same capacity on July 1, 1935, to Chicago. He was appointed assistant general freight agent at New York on February 2, 1928, and general New England agent at Boston, Mass., on November 1, 1937, the position he held until his recent appointment as general freight agent at New York.

ENGINEERING AND SIGNALING

John M. Nicholson, assistant engineer on the Pennsylvania, has been appointed assistant to the chief engineer of the New York Zone of that road and the Long Island. Mr. Nicholson joined the staff of the Long Island as a draftsman, following his graduation from Columbia University in 1903 with the degree of civil engineer. During the World War Mr. Nicholson assisted in planning the Bay Ridge Army Base and the South Brooklyn Navy Supply Depot. He has worked on virtually all grade separation improvements of the Long Island since 1903 and of the

John M. Nicholson

Pennsylvania (New York Zone) since 1928. At the present time he is engaged on numerous grade separations in Nassau and Suffolk Counties as well as on the Atlantic avenue, Aqueduct and Rockaway Beach elimination projects in New York City.

OBITUARY

Frank W. Holt, purchasing agent of the Erie, with headquarters at Cleveland, Ohio, died in that city on November 11 at the age of 56.

S. R. Biering, assistant general claim agent of the Gulf, Colorado & Santa Fe, with headquarters at Galveston, Tex., died in St. Mary's Infirmary in that city on November 11, following a brief illness.

Francis Patterson Abercrombie, who retired on April 1, 1921, as superintendent of the Middle division, Eastern region, Pennsylvania system, died on November 11 at his home in Philadelphia, Pa., at the age of 87.

Henry M. Gillick, division superintendent on the Chicago, Milwaukee, St. Paul & Pacific, with headquarters at Aberdeen, S. D., died at that point on November 12. Mr. Gillick was born at Glencoe, Minn., on October 21, 1880, and entered railway service in 1897 as a station helper at Glencoe. In 1899, he was promoted to telegraph operator and was advanced through various positions in the operating department of the Milwaukee, becoming trainmaster at Green Bay, Wis., in the fall of 1916. In the spring of 1918, he was transferred to Aberdeen, S. D., and in November, 1919, he was promoted to superintendent, with headquarters at Lewistown, Mont. Mr. Gillick was later transferred to Miles City, Mont., and on November 1, 1930, he was transferred to Aberdeen.

M. H. Jacobs, freight traffic manager of the Western Maryland, with headquarters at Baltimore, Md., died at his home in that city on November 15, after a lingering illness. Mr. Jacobs was born at Waynesboro, Pa., and entered railroad service in 1893 in the freight department of the Western Maryland at York, Pa. He was transferred to Baltimore as city ticket agent in 1900; being promoted to soliciting freight agent in 1904. In 1912 Mr. Jacobs was transferred to Pittsburgh, Pa., as general agent, becoming assistant general freight agent in 1913, and returned to Baltimore as general freight agent in 1916. During the World War he served the Railroad Administration in various capacities, and on the return of the railroads to private ownership he again assumed his duties as general freight agent at Pittsburgh, being appointed freight traffic manager in charge of solicitation in 1930, and was transferred to Baltimore in the same capacity in 1931, where he remained until his death.

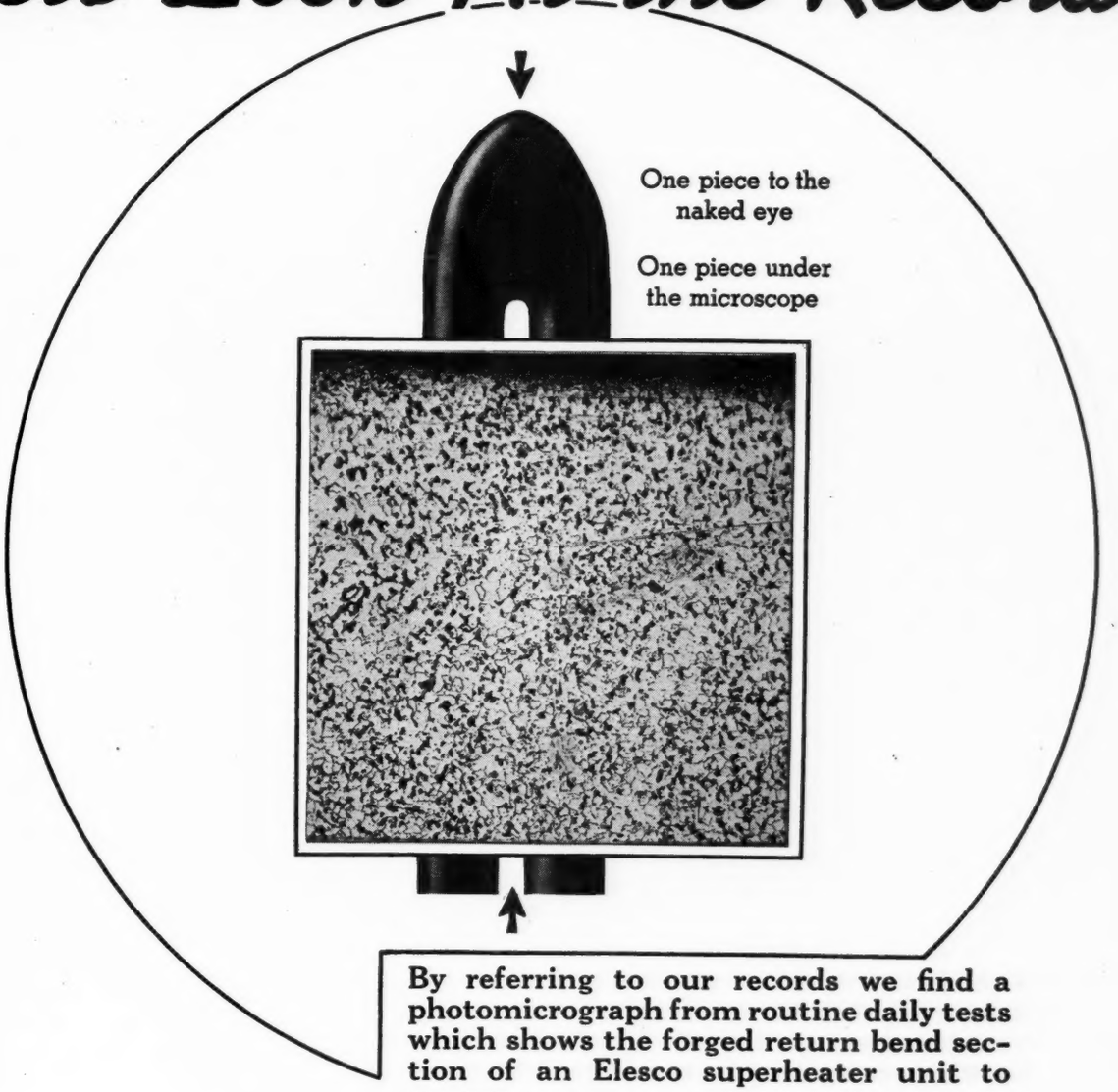
Daniel C. Dobbins, who resigned on March 1, 1939, as superintendent of the Northwestern district of the Missouri-Kansas-Texas, with headquarters at Wichita Falls, Tex., was accidentally shot to death on October 12, while hunting near Waco, Tex. Mr. Dobbins was born at Granbury, Tex., on January 28, 1883, and entered railway service on the Katy as an operator at Dublin, Tex., on September 25, 1906. He was promoted to dispatcher at Waco on December 24, 1906, and was later transferred to Walnut Springs, Tex. On December 8, 1914, he was promoted to chief dispatcher at Waco and in October, 1919, he was promoted to trainmaster. Following a short period of service with the St. Louis Southwestern, he returned to the Katy on July 5, 1921, as trainmaster at Wichita Falls and on July 18, 1922, he was appointed acting superintendent at Waco. Mr. Dobbins was advanced to superintendent of the South Texas district on April 28, 1923, and three months later he was transferred to Wichita Falls. On May 1, 1928, he was transferred to Smithville, Tex., and on April 11, 1938, he was transferred back to Wichita Falls, where he remained until his resignation March 1.

Arthur A. Tisdale, who retired in 1932 as general manager of the Western region of the Canadian National, and whose death on October 31 at Winnipeg, Man., following a short illness, was announced in the *Railway Age* of November 4, was born near Brantford, Ont., on March 8, 1874, and entered railway service on September 18, 1889, in the local freight office of the Grand Trunk (now part of the Canadian National), at Hamilton, Ont. For the following 20 years, Mr. Tisdale served this road successively for seven years as secretary to the chief engineer at Hamilton and at Montreal, Que., for three years as secretary to the general superintendent at Montreal, for five years as chief clerk to the manager, and as chief clerk and assistant to the fourth vice-president and general manager. He was then appointed superintendent on the Grand Trunk Pacific (now also part of the Canadian National) with headquarters at Fort William, Ont., where he remained until June, 1915, when he was transferred to the Regina division at, Regina, Sask. The following year he was promoted to purchasing agent and assistant to the vice-president and general manager, with headquarters at Winnipeg, and in August, 1920, he was appointed assistant to the general manager at Winnipeg. On August 21, 1929, Mr. Tisdale was advanced to general manager of the Western region, with headquarters at Winnipeg, the position he held until his retirement on June 30, 1932.

Arthur A. Tisdale

Table of Operating Revenues and Expenses appears on next left-hand page

Let's Look At the Records



By referring to our records we find a photomicrograph from routine daily tests which shows the forged return bend section of an Elesco superheater unit to possess:

(a) A minimum of inclusions
(b) A fine grain
(c) No decarburization
(d) Uniformity in grain size and composition
(e) A metal structure implying maximum toughness

This forging process is used in both the manufacture of new superheater units and the REmanufacture of your wornout superheater units.

Standardize on our REmanufacturing service—it is dependable.

ELESCO

THE SUPERHEATER COMPANY

Representative of AMERICAN THROTTLE COMPANY, INC.
60 East 42nd Street, NEW YORK 122 S. Michigan Ave., CHICAGO
Canada: THE SUPERHEATER COMPANY, LTD., MONTREAL

A-1371

Superheaters « Exhaust Steam Injectors « Feedwater Heaters « American Throttles « Pyrometers « Steam Dryers

Operating Revenues and Operating Expenses of Class I Steam Railways

Compiled From 134 Monthly Reports of Revenues and Expenses Representing 138 Class I Steam Railways

(Switching and Terminal Companies Not Included)

FOR THE MONTH OF SEPTEMBER, 1939 AND 1938

Item	United States		Eastern District		Southern District		Western District	
	1939	1938	1939	1938	1939	1938	1939	1938
Miles of road operated at close of month	233,378	234,236	57,520	57,780	44,442	44,614	131,416	131,842
Revenues:								
Freight	$314,400,213	$261,287,589	$126,751,598	$97,719,035	$61,815,918	$52,617,950	$125,832,697	$110,950,604
Passenger	37,145,859	34,392,497	21,235,940	18,975,791	3,944,943	3,778,019	11,964,976	11,638,687
Mail	7,935,837	7,594,001	3,080,758	2,907,929	1,325,516	1,290,122	3,529,563	3,395,950
Express	5,037,811	4,958,070	2,481,001	2,013,035	681,230	922,190	1,875,580	2,022,845
All other operating revenues	16,598,160	14,310,678	7,694,779	6,535,399	2,018,113	1,836,733	6,885,268	5,938,546
Railway operating revenues	381,117,880	322,542,835	161,244,076	128,151,189	69,785,720	60,445,014	150,088,084	133,946,632
Expenses:								
Maintenance of way and structures	42,916,549	41,392,520	15,911,051	15,338,270	7,039,580	6,514,012	19,965,918	19,540,238
Maintenance of equipment	64,824,135	56,375,021	28,977,729	23,384,105	12,381,866	10,979,237	23,464,540	22,011,679
Traffic	8,736,247	8,224,703	3,245,842	2,987,561	1,680,046	1,551,927	3,810,359	3,685,215
Transportation—Rail line	120,811,961	112,291,042	53,612,887	48,517,173	19,654,114	18,562,365	47,544,960	45,211,504
Transportation—Water line	435,397	336,850	.....	.....	.....	.....	435,397	336,850
Miscellaneous operations	3,285,380	3,338,440	1,406,775	1,374,169	308,883	293,196	1,569,722	1,671,075
General	10,558,427	10,322,613	4,162,200	4,090,198	2,013,799	1,951,478	4,382,428	4,280,937
Transportation for investment—Cr.	401,157	298,449	76,721	51,984	62,553	35,545	261,883	210,920
Railway operating expenses	251,166,939	231,982,740	107,239,763	95,639,492	43,015,735	39,816,670	100,911,441	96,526,578
Net revenue from railway operations	129,950,941	90,560,095	54,004,313	32,511,697	26,769,985	20,628,344	49,176,643	37,420,054
Railway tax accruals	32,724,108	29,317,395	13,758,570	12,480,313	7,197,812	6,031,904	11,767,726	10,805,178
Railway operating income	97,226,833	61,242,700	40,245,743	20,031,384	19,572,173	14,596,440	37,408,917	26,614,876
Equipment rents—Dr. balance	7,910,099	7,888,470	3,622,747	3,393,499	*375,631	*69,025	4,662,983	4,563,996
Joint facility rent—Dr. balance	2,881,556	2,947,932	1,562,840	1,666,838	267,362	290,728	1,051,354	990,366
Net railway operating income	86,435,178	50,406,298	35,060,156	14,971,047	19,680,442	14,374,737	31,694,580	21,060,514
Ratio of expenses to revenues (per cent)	65.9	71.9	66.5	74.6	61.6	65.9	67.2	72.1
Depreciation included in operating expenses	16,866,173	16,858,599	7,412,789	7,391,545	3,321,379	3,284,079	6,132,005	6,182,975
Pay roll taxes	9,029,117	8,502,881	3,884,720	3,560,797	1,541,132	1,449,733	3,603,265	3,492,351
All other taxes	23,694,991	20,814,514	9,873,850	8,919,516	5,656,680	4,582,171	8,164,461	7,312,827

FOR NINE MONTHS ENDED WITH SEPTEMBER, 1939 AND 1938

Miles of road operated at close of month†	233,535	234,570	57,581	57,909	44,479	44,685	131,475	131,976
Revenues:								
Freight	$2,309,285,638	$2,048,731,644	$943,157,078	$796,036,708	$463,184,347	$416,420,756	$902,944,213	$836,274,180
Passenger	316,444,880	305,949,083	175,463,219	166,902,798	40,750,966	40,915,499	100,230,695	98,130,786
Mail	71,378,289	69,079,540	27,427,743	26,400,823	12,287,469	12,013,492	31,663,077	30,665,225
Express	39,715,874	33,943,935	16,178,331	12,013,586	8,324,367	7,082,732	15,213,176	14,847,617
All other operating revenues	125,255,170	115,830,819	60,495,263	56,240,541	15,500,660	14,974,878	49,259,247	44,615,400
Railway operating revenues	2,862,079,851	2,573,535,021	1,222,721,634	1,057,594,456	540,047,809	491,407,357	1,099,310,408	1,024,533,208
Expenses:								
Maintenance of way and structures	349,278,956	313,786,334	129,846,820	113,323,509	61,568,932	57,461,769	157,863,204	143,001,056
Maintenance of equipment	555,282,398	496,856,948	239,568,944	204,094,539	107,153,425	96,805,120	208,560,029	195,957,289
Traffic	79,509,302	76,787,438	28,790,436	27,922,406	14,986,485	14,532,138	35,732,381	34,332,894
Transportation—Rail line	1,032,517,190	1,002,295,260	462,458,847	438,609,139	173,542,935	169,495,352	396,515,408	394,190,769
Transportation—Water line	3,660,815	3,510,628	.....	.....	.....	.....	3,660,815	3,510,628
Miscellaneous operations	28,295,415	28,459,317	12,045,000	12,448,128	3,479,534	3,415,441	12,770,881	12,595,748
General	95,977,200	95,999,443	38,129,067	38,045,816	18,236,695	18,269,084	39,611,438	39,684,543
Transportation for investment—Cr.	3,026,455	2,378,757	390,296	448,632	503,711	412,288	2,132,448	1,517,837
Railway operating expenses	2,141,494,821	2,015,316,611	910,448,818	833,994,905	378,464,295	359,566,616	852,581,708	821,755,090
Net revenue from railway operations	720,585,030	558,218,410	312,272,816	223,599,551	161,583,514	131,840,741	246,728,700	202,778,118
Railway tax accruals	266,677,012	255,413,710	114,119,889	108,445,635	54,382,175	50,245,586	98,174,948	96,722,489
Railway operating income	453,908,018	302,804,700	198,152,927	115,153,916	107,201,339	81,595,155	148,553,752	106,055,629
Equipment rents—Dr. balance	72,305,788	70,891,304	31,858,868	29,461,820	3,732,534	4,593,681	36,714,386	36,835,803
Joint facility rent—Dr. balance	26,592,341	26,468,551	14,425,367	14,215,614	2,890,501	2,953,205	9,276,473	9,299,732
Net railway operating income	355,009,889	205,444,845	151,868,692	71,476,482	100,578,304	74,048,269	102,562,893	59,920,094
Ratio of expenses to revenues (per cent)	74.8	78.3	74.5	78.9	70.1	73.2	77.6	80.2
Depreciation included in operating expenses	151,483,533	151,598,921	66,330,421	66,202,881	29,927,136	29,580,593	55,225,976	55,815,447
Pay roll taxes	77,443,912	73,680,486	33,059,633	30,813,880	13,602,515	13,112,871	30,781,764	29,753,735
All other taxes	189,233,100	181,733,224	81,060,256	77,631,755	40,779,660	37,132,715	67,393,184	66,968,754

* Decrease, deficit or other reverse items.

† Represents an average of the mileage reported at the close of each month within the period.

Compiled by the Bureau of Statistics, Interstate Commerce Commission. Subject to revision.